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ABSTRACT

This study investigated the effects of short term supplemental parent and classroom programs on the self-concept, sociometric status, social involvement, and heterogeneity of friendship and associations of day care children 3.3 to 5 year of age. The treatment conditions compared: (1) a regular day care program (control); (2) a day care program with supplemental classroom activities designed to enhance specific social interaction skills; (3) a day care program with a supplemental parent program focusing on increasing positive parent-child and parent-teacher interaction; and (4) a day care program with both supplemental classroom and parent programs. Data were collected before and after the 12-week intervention period, from approximately 200 black and Anglo children in eight large day care centers, using the following instruments: Brown IDS Self-Concept Referents Test; Play Situation-Picture Board Sociometric; Classroom Socio-Observations; and the Observation and Socialization Behavior instrument (revised), a videotaped observational rating procedure. Significant differences across treatment conditions were evidenced on a number of variables. The appendices include supplemental information on the instruments used, sample lessons from classroom and parent programs, and descriptions of the centers involved. (ED)

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Final Report
June 30, 1975

EARLY SOCIAL DEVELOPMENT:
PARENT AND CHILD PROGRAMS

Robert P. Boger
Mary P. Andrews

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The research reported herein was performed pursuant to Grant number OCD-CB-485 with the Office of Child Development, Department of Health, Education & Welfare. Statements made in this document do not necessarily reflect the position or policy of this office.

ABSTRACT

Early Social Development: Parent and Child Programs

Robert Boger
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The primary objective of this study was to investigate the effects of short term supplemental parent and classroom programs on the self concepts, heterogeneity of friendship choices and associations, sociometric status, and social involvement of Day Care 3 1/2 - 5 year olds; and to note if these potential differences were related to sex or socioeconomic group membership of the children.

A four-way design model of a quasi-experimental nature was employed. Two centers were nested in each of the four treatments. The primary independent variable, treatment, was defined as:

1. Regular day care center program (control);

2. Day care center program with supplemental classroom activities designed to enhance specific social interaction skills;

3. [illegible] care center program with supplemental parent program focusing on increasing positive parent-child and parent-teacher interaction;

4. Day care center program with both supplemental classroom and parent programs.

The two programmatic inputs implemented in the various treatments were both developed at Michigan State University. The parent education program was the Parents are Teachers Too program, and the classroom activities were the M.S.U. Sociodramatic Play Curriculum.

The data were collected prior to and after the 12-week intervention period, using the following instruments: Brown IDS Self Concept Referent Test, Play-Situation Picture Board Sociometric, Classroom Socio-Observations, and the Observation of Socialization Behavior (Revised) instrument, a videotaped observational rating procedure.

The sample consisted of 200 children enrolled in eight relatively large day care centers in lower Michigan. Their ages ranged from 3.3 to 5 years. Both Black and anglo children were involved.

A multivariate analysis of covariance model was applied to test for differences across treatments and demographic groups on the post test measures.

Significant differences across treatment conditions were evidenced on a number of variables. In general, parent programs seemed to affect the socio-emotional affect expressed by children. Children in centers receiving supplemental parent programs displayed less adult dependency, increased self concepts (within the low SES group), increased autonomy, and more gregarious responsive play behaviors.

Children in centers receiving the supplemental classroom activities exhibited the most cooperative-interactive play. They both responded to and initiated peer interaction at the highest levels of social behavior, and expressed more positive affect in their voice and general play behavior.

Children in centers implementing "both" supplemental programs were the most heterogeneous and gregarious of all. They directed their interactions to a wide variety of peers and were most heterogeneous in regard to being chosen by opposite Sex and SES peers on the sociometric task.

Thus, parent programs seemed to affect children's emotional states, while classroom programs enhanced specific social interaction skills. "Both" programs reflected aspects of the individual programs, as well as a gestalt that was especially evident in heterogeneous, gregarious, outgoing behavior.

Sex and socioeconomic group membership (SES) differences were also evidenced. Males were more heterogeneous in regard to choosing peers from the opposite SES group on the sociometric task, and interacting with unlike SES peers in the classroom. Females generally had better self concepts than males, but exhibited more adult dependency in the classroom. Low SES children more often chose mid-SES peers as sociometric choices than did mid-SES children choose low SES peers.

Other relationships explored involved the interrelationships among self concept scores and peer interaction variables, and among variables designed to reflect inter-group attitudes. These relationships were investigated using pre-test data only, as reflective of baseline behavior. In general, a negative relationship existed between self concept and social involvement, children with poorer self concepts being more interactive and playing at more cooperative levels of play. Children with better self concepts were more autonomous but did not engage in cooperative, facilitative play.

Positive relationships across instruments suggested the existence of patterns of inter-group attitudes. Factors predictive of heterogeneous interactions across sex lines were age-related, while factors predictive of heterogeneous interactions across SES lines were behaviors reflective of social skill competency.

Preface and Acknowledgments

The present document is the final report of a project begun in August, 1973, designed to compare the relative effectiveness of supplemental parent and classroom activities on children's self concepts and patterns of social interaction. The research was supported by the Children's Bureau, Office of Child Development Grant OCD - CB - 485. Special appreciation is extended to the staff of this office for providing us with the opportunity to implement this investigation. It is not possible to acknowledge individually all who have contributed to this project at the various stages of its development. However, special appreciation must be expressed to several groups of people.

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Another most important group of people are the Day Care Center directors, staff, parents, and especially children, whose cooperation and enthusiasm enabled the project to be not only carried out, but meaningful. Their acceptance and support has been most appreciated.

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The research staff, headed by Paul Muhs, faithfully traveled long hours to collect the data for this project. Their unfailing commitment and surprising versatility were critical to the effort. Nancy Hand and Paul Muhs collected the videotaped observational data. Cheryl Hall, Pat Theil, Eileen McCallough, Kathy Hummel, Claudia Unruh, Maureen Good, Betty Keeley, Barb Faidley, Connie Crawley and others collected the individual assessments and classroom observations.

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INTRODUCTION

Our society is a complex, pluralistic social system in a period of rapid change. Numerous subgroups within the population are evidencing difficulty in relating both to their environment and to other segments of society. How society socializes its young will have impact on the future in determining whether polarization of sub-cultures or social integration occurs.

Socialization is a broad concept that implies preparing individuals to function within a given society or social group. Socialization is a continual process occurring throughout the lifespan at all system levels. During the early years when formative social patterns of interacting and relating are established, the socialization process is monopolized by familial influences. Through the family the child assumes a social class, ethnic, and racial identity that differentiates the orientations and expectations the child receives (Clausen, 1968).

Traditionally the schools have been viewed as the great "melting pot", diffusing familial influences and instilling common values, ideals, and behaviors consistent with the larger society..... Whether the schools should or can accomplish this great task is questionable; nevertheless, present social tensions provide evidence that the task is not being accomplished.

There remains, therefore, a continual need to foster understanding of how the early environment influences the child's socialization and to develop strategies to intervene in the child's early social development to optimize both intra- and inter-group attitudes and interaction patterns.

One opportunity to help hundreds of thousands of children during the critical preschool years is through the many day care facilities that parents have turned to in the last decade. Mostly out of economic necessity but also as a reflection on our social times, day care has become an institution in our society.

The potential is great, for the early childhood setting presents an optimal social learning environment. It provides an opportunity for varied peer and adult interaction in a setting of materials and equipment appropriate to stimulate and support active exploration of the environment.

The present challenge is to capitalize on this potential and provide day care environments that truly meet the needs of the developing child. In optimizing human potential, the ultimate benefactor will be society.

One important ingredient in developmental day care is continuity between the home and school. This necessitates some form of familial involvement in the child's activities as well as parent-teacher interaction and support.

Another important ingredient is subpopulational mix, so that children are exposed to value, belief, and behavioral differences. Opportunities to observe and interact with those that are different will help the child gain experiences that can build positive inter-group attitudes, especially if these experiences are planned and supervised by knowledgeable teachers.

OBJECTIVES

The general objective of this study is to compare the relative effectiveness of various short term intervention models in providing experiences that would enhance intra- and inter-group attitudes of children as reflected in their self-concept and social involvement with peers.

The primary research question is: are there differences in the self-concept, heterogeneity of friendship choices and associations, sociometric status, and heterogeneous peer group interaction of preschool children among the following groups?

1. children in regular day care center programs (control)
2. children in day care centers which have a supplemental programmatic component directed toward the development of positive social interactions (MSU Sociodramatic Play Curriculum)

3. children in day care centers which have a supplemental parent education program directed toward increasing positive parent-child and parent-teacher interaction (Parents are Teachers Too)

4. children in day care centers which have both the supplemental classroom and parent education programs.

Secondarily, are these potential differences related to the sex and/or socioeconomic group membership of the children?

PROGRAMS

The two programs included as intervention models were both developed at Michigan State University. They capitalize on the two systems that have primary influence over the preschool aged child--the family and the school or day cara center. Although the focus of influence on the child differs greatly between these two programs, their fundamental goal or outcome is similar--increased social competency.

PARENTS ARE TEACHERS TOO:

The Parents are Teachers Too (PTT) program used in this study is an adaptation of the original program developed by Judith Kuipers and Robert Boger in 1968-69 and successfully field tested in both Head Start and Day Care settings.

PTT focuses on (1) increasing communication between the day care center and the home, (2) improving the quality of the parent-child interaction through increased parental awareness of differing interaction patterns and child rearing approaches, and (3) enhancing cognitive and affective development of the child through participation in specific activities with parent prepared materials.

Basic assumptions are: as parents interact more frequently with the child's school and take on teaching roles themselves, the school and school activities take on a more valued position in the child's life. As parents become more familiar with the school environment they can begin to mediate problems and experiences for a more consistent, focused socializing effect on the child. And more importantly, as parents grow in their confidence and competence in recognizing and providing positive learning experiences, the child's most important environment, the family, is enhanced.

The goal of this programmatic approach is to enhance the child's self-concept, language development, and basic social and cognitive skills; thereby opening new possibilities for interpersonal interaction and social learning both in the home and in other settings.

MSU SOCIODRAMATIC PLAY CURRICULUM:

The MSU Sociodramatic Play Curriculum is part of a larger socialization curriculum developed by Robert Boger, Tito Reyes and Joanne Lichtenwalner, and tested in socioeconomically mixed preschool classes in 1969-72.

The sociodramatic play program focuses directly on interpersonal interactions of teachers with children and of children with each other. The curriculum provides a framework for teachers to establish social environments and interaction techniques that encourage the learning of social skills.

Specific sociodramatic settings are established with well developed sequences of experiences, specific props, carefully planned teacher involvement and limitations in the number and type of children in interactions. Such environments encourage understanding one's own and other's feelings about social interaction and guide children toward developing mutually rewarding (as well as socially acceptable) patterns of exchange. The primary mode of learning is through imitation of social models (both peers and teachers) and social reinforcement including intrinsic reinforcement derived from success in controlling one's environment.

SUMMARY:

This research compares the relative affects of providing supplemental classroom and parent education programs in the ongoing day care experiences of children 3 1/2 to 5 years of age. Of particular interest are changes in the children's self-concept, heterogeneity of friendship choices and associations, sociometric status, and heterogeneous peer group involvement as a result of this 12-week intervention. Eight relatively large day care centers from four southern Michigan communities were involved and were randomly assigned to the four treatment conditions.

CHAPTER II

RELATED LITERATURE

The term "socialization" has diverse connotations. Generally speaking it refers to the "whole process by which an individual born with behavioral potentialities of enormously wide range, is led to develop actual behavior which is confined within a much narrower range--the range of what is customary and acceptable for him according to the standards of his group" (Child, 1954). "The essence of socialization is the person's internal regulation of his own behavior in ways that are adequate to the interpersonal situation and to the larger social order." (Elken & Handel, 1960)

The process is basically a learning process occurring as the individual establishes relationships and interacts with others. "It encompasses the learning of motives and feelings as well as skills and cognitive sets" (Clausen, 1968).

Socializing agents may explicitly set about to teach a specific task and provide feedback to the learner; or incidental learning may occur as the individual interacts with and imitates behaviors of others (Inkeles, 1968). In any case the socializee is an active agent, selectively assimilating and incorporating information in unique configurations.

On one hand the environment impinges upon the child, attempting to bring the child into line with the cultural group. On the other hand the child actively engages in interaction with the environment to enlarge his repertoire of skills and strategies as his cognitive structures develop. The child moves forward to meet socialization requirements on his own terms and in his own way. The resultant functional behaviors that are observable as social skills are a complex result of environmental constraints mediated by individual needs and responsitivity patterns.

The specific areas of socialization that are the focus of this study are the development of social attitudes and skills.

The two main foci of interest are: (1) the child's feelings about himself and how these feelings may be related to peer interaction, and (2) the manifestations of intra- and inter-group orientations and attitudes as reflected in sociometric choices and play involvement with peers.

The Development of Self

The child's self-concept is a mirror of what others have communicated to the child about himself. It is a symbolic representation of self, reflecting one's feeling about oneself as well as one's perceptions of how others perceive oneself (Yamanoto, 1972). Earliest relationships in the family influence the establishment of feelings of security, adequacy, and worth which form the basis of the "self" (Sullivan, 1953). As the child moves out from the nuclear family he encounters new expectations and standards for comparing and evaluating himself. These relative images are in a continual state of evolution, shaped by relationships with significant others and opportunities to compete with peers (Cottrell, 1969).

Two aspects of the self are in current usage; (1) the self as subject defined as a group of psychological processes that govern behavior and adjustment; and (2) the self as object or the organized collection of attitudes, beliefs, and feelings a person has about himself (Coller, 1971). Both converge as a generalized social-motivational influence on the child's behavior. The child must feel secure with himself before he can venture into new social experiences and effectively engage in creative endeavors (Kiester, 1973). Educational achievement is greatly influenced by the self-concept as it mediates participation in learning activities. High ratings of self-concept in the preschooler relate positively to first grade reading achievement across social class lines (Watternberg and Clifford, 1962).

In the realm of interpersonal relationships, high self-esteem has been positively related to a greater acceptance of person's different from one's self (Souder, 1972). Positive self concepts appear to facilitate positive social interaction and social skill development. Reciprocally, peer acceptance and friendship contributes to self acceptance and esteem. A cyclic pattern evolves one building and maintaining the other.

Intergroup Attitudes

Children at very young ages (below the age of four years) learn to discriminate between ethnic groups, social classes and behavioral characteristics of others. Social interactions are often influenced by these cognitions and evaluative attitudes are formed based on early and continuing experiences (Hess, 1970). Proshansky (1966), in an excellent review of the development of intergroup attitudes presents a three-stage process for the development of ethnic attitudes.

Stage 1. Ethnic Awareness begins to take shape during the preschool years as a perceptual differentiation. Visible differences in skin color or behavioral traits markedly aids in this perceptual awareness, but even more subtle differences in religious or national groups emerge early in life. Such awareness appears to be a part of the larger process of establishing a sense of self. Minority group membership predisposes many children to early ethnic awareness.

Stage 2. Ethnic Orientation is an "rudimentary attitude" that conceptualizes the child from 4 to 8 years. At this point ethnic characteristics and concepts are cognized but the meaning and significance of these differences are not understood.

Strong ethnic preferences may be observed during this time as Goodman (1952) describes with black preschool children preferring white more often than black dolls and storybook characters.

Porter (1971) also found that black Head Start children showed less identification with and preference for their own ethnic group than did white children, as measured by a paired picture selection test. White girls identified more with their own group than did other experimental groups and in general girls showed a stronger preference for sex than ethnicity.

Stage 3. Ethnic attitudes emerge during the elementary years as a continuation of the process of differentiation and integration of beliefs, feelings and experiences regarding members of different ethnic groups. Based on early cognitions the child learns what groups are like, how they should be treated and how one ought to feel about them.

However, whether ethnic or class orientations take on prejudicial qualities is probably dependent on the social environment in which the child functions.

Since much social learning occurs incidentally, socializing agents may need to explicitly teach positive ethnic and class orientations in order to counteract uncontrollable naturally occurring negative influences (Fein, 1973).

Contact may also be an important factor. Although the literature on racial integration provides ambiguous information; with elementary school children, cooperative and equal status interracial school contacts can, but not necessarily will, reduce ethnic prejudice (Sowder & Lazer, 1972).

At the preschool level, little evidence is available. Educators have traditionally encouraged class and ethnic mixes in order to aid children in developing tolerance for, and coping strategies to deal with behavioral differences.

Stodolsky & Jensen (1969) in studying cross-group social interaction and peer preferences in preschool and elementary school children found middle-class and lower-class children to differ in their choice of friends over one school year. Sociometric tests and time sampling observations were conducted at the beginning and end of the school year. Common interests and activities facilitated friendship choices across class lines for middle-class children only. Lower class children directed more acts within their own class or to Negro middle-class children. In this case, contact did not facilitate change for the lower-class children although middle-class children did expand interactions across class lines.

In a study of cognitive skill development, socioeconomic mix had a positive effect on disadvantaged children with no adverse effects for advantaged children. Social competency was also improved (Reese & Morrow, 1973).

Both Proshansky (1966) and Sowder (1972) note that ethnic orientations and preferences in preschool children may not be reflected in actual differential behavior to ethnic groups. While verbalized directly to peers or revealed on projective tests, ethnic preferences do not influence differential amounts of inter- or intra-group interaction. In fact, teachers report children respond more to individual behavioral differences than ethnic differences in day to day interactions. Behavioral characteristics of individual children are not generalized to the ethnic group as a whole.

Supporting children in tolerating, coping and managing social confrontations can be a major contribution of group preschool/day care experiences, especially at this age when attitudinal predispositions are not firmly engrained in behavior.

Background of Parental Involvement Models

The home is the child's first and primary socializing environment. The expectations, values, patterns of control, and affective atmosphere of the home immensely influence the course of the child's development (Baumrind, 1967).

Parents are important not only because of the total length of time they are available to interact with their children but because of the tremendous importance familial bonds are in influencing the totality of the child's experiences, beliefs, and behaviors (Lichenberg & Norton, 1970).

The educational system can support these forces but has not been successful in working against them when they are having a negative impact on children. This fact was highlighted during the compensatory education movement in the 1960's as the nation became more aware of the inadequacies of the educational system in educating all children (Coleman, 1966). The impact of the family and home environment appeared greater than that of the schools in mediating the educational outcomes of children. Even enormous efforts to compensate for environmental deprivation (Head Start) met with minimal success in effecting long term change (Jensen, 1969; Schaefer, 1973).

It appears that the schools can provide a positive alternative for the child while at school, but must do more in the way of working with parents in order to make an impact on the home. As Bronfenbrenner (1969) notes: "The child's social environment, beyond the school alone, must be modified to enrich his total development as a socialized person in a cooperative productive society" (Chilman, 1974).

Based on such rationale, most federally funded early childhood programs (Day Care, Head Start, Title I) have been required to include some type of parental involvement in the ongoing program.

But mere invitation for parental participation and actual involvement in the school or day care center are two very different phenomena. By and large, the parents who most often make contact and/or become involved with their child's school voluntarily are confident, active, upwardly mobile, problem free parents (Chilman, 1974). The parents who would theoretically reap the most benefit from association with the school environment and who require the most support are the most difficult ones to reach.

Head Start and funded intervention programs have experimented with a variety of approaches that seek out parental contact by providing specific parent programs. These programs can be divided into those that focus on parents in group settings (Wittes, 1969; Boger, et al., 1969) and those that supplement school activities with home visits (Radin, 1972; Stern, 1971). A third area involves direct intervention into the home as an alternative to school. Chilman, (1963, 1974) and Hess, (1974) provide a comprehensive summary and evaluation of many of these programs. All of these types of programs have evidenced change in child dependent measures (usually cognitive and language skills) and on parental behaviors (attitudes and language interaction); although their program rationale and objectives vary.

Home tutoring approaches capitalize on modeling as the learning paradigm for parents but usually emphasize change in cognitive functioning of children. These programs have reported significant gains on children's intellectual measures (Schaefer, 1965, Weikart, 1969; Gordon, 1969.).

It can be assumed that it is more important to effect change in parental attitudes and behaviors than to just change child behavior for this has a longer lasting impact on the child and the potential of diffusion to younger sibs (Bronfenbrenner in Zigler, 1972). Programs emphasizing working through the parent to effect the child usually hold the above opinion and actively attempt to change parental behavior. These programs often employ a group process paradigm, recognizing the need for parents to interact informally with other parents and teachers as both a social outlet and as an effective educational setting (Hoffman, et. al., 1971).

Radin (1972) reports significant gains on intellectual and language measures of children provided with additional tutoring in the home along with a preschool program, but changes in maternal attitudes only in a treatment condition that included parent-teacher group discussions. Stern (1971) also incorporated group process techniques in providing parents with materials and techniques to use with their Head Start children at home.

Language gains were observed in the children when parents used the materials; however, it was suggested that parents needed highly structured, specific tasks in order to have an impact on their children's cognitive functioning.

Wittes and others (1969), specifically compared two pedagogical techniques for changing both maternal attitudes and child behaviors. An activity-oriented group meeting was compared to a lecture plus question and answer format. No significant differences were reported between the two groups on the dependent measures, (PARI, Home Environment Scale, Binet); although weaker members showed greater gains in the activity-oriented program.

Structured activities also had a greater impact than discussion techniques in the first field testing of the Parents are Teachers Too Program in six Head Start classrooms in rural Michigan (Boger, Kuipers & Beery, 1969). The PTT program was compared to a structured language program (Loveless & Kelly, University of Hawaii Head Start Evaluation and Research Center, 1968), a placebo group (discussion), and a pure control group. Children of those mothers receiving the two specific language programs evidenced greater gains on the WPPSI total and verbal scores. Mothers in the two language groups used significantly more specific language in explaining the task on the Hess-Shipman Toy Sort Task and used more complete sentences on the MSU Tell-A-Story test. Although these programs stressed language and cognitive skill acquisition; changes in the general quality of the mother-child interaction were reflected in increased self-concept scores of the children of participants.

This phenomena of change toward more positive self-feelings in children of participants was again evidenced in a recent implementation of the Parents are Teachers Too program in six day care centers (Boger, et. al., 1974).

Many investigators have repeatedly reported difficulty in securing consistent parental participation in parent programs even though parents are interested and concerned about their children's development (Stern, 1971, Adkins, 1971, Chilman, 1974). In fact this has been the most widely heard criticism of group-oriented parent education programs. In recognition of this concern, the above study investigated the effects of three incentive conditions on initiating and maintaining parental participation in the parent education program at the center. Significantly greater attendance was evidenced in the groups receiving incentives ($5 or babysitting and transportation) compared to the no incentive groups. Bauch, et. al. (1973) also found the availability of services such as babysitting and transportation an explanatory variable in influences on parental participation.

Summary

Most of these compensatory efforts have sought to intervene in the cognitive development of children and work through the mother's teaching style to effect change. And yet, it may be the social-emotional atmosphere of the home that has the greatest impact on the child and his approach to learning (Hoffman, et. al., 1971). As parents are significant models for children to learn from, it is indeed necessary to support parents in

1. expressing good feelings about the school or center
2. reenforcing the child's achievements
3. showing interest in the child's activities
4. providing continuity between activities at the school and the home.

The implications inferred from these studies lead to the following conclusions:

1. efforts must be directed toward parents in order to effect change in the home and in the relationship between the parent and child.

2. parents need support perhaps in the way of at least babysitting and transportation in order to secure attendance at parent meetings.

3. parents should be actively involved in the activities planned at parent meetings to provide structure for interaction with their children at home.

The Parents are Teachers Too program implemented in the present study incorporates these conclusions while emphasizing the social-emotional needs of the child in providing activities to encourage positive parent-child interaction.

Background of Peer Interaction Models

The second most important socializing influence on the young child is the peer group. The peer group provides an important arena for developing social interaction skills, role-taking, and sex appropriate behaviors. Through competition and social feedback the child reevaluates self judgments of competence and self esteem, and builds more realistic attitudes about himself (Dinkmeyer, 1965).

Early studies investigating social development (Maudry & Nekula, 1939; Bridges, 1933; Parten, 1932) note a positive relationship between age and amount and quality of prosocial peer interaction. Age related changes in sensory-motor capacities, cognitive functioning, and the development of impulse control influence social skill development (Hartup, 1970).

Situational variables also interact to influence social development. Contingency of reinforcement and feedback from adults and peers, the type of social models available, and opportunities to interact with a variety of role positions all influence the developmental process.

Prerequisite to effectively interacting with others the child must develop the ability to take the role of the other and be capable of employing a large and varied repertoire of lines of action or tactics appropriate to varied situations (Weinstein, 1969). Role taking is a fundamental social skill that has its beginnings in the young child's capacity to distinguish self from non-self and develops with the increasing ability of the child to discriminate social cues and predict behavioral outcomes. The greater the breadth of social relationships available to the child the greater opportunity the child will have to improve the capacity to note the impact of his acts on others, to play at different roles, and to formulate alternative patterns of exchange.

Rudimentary forms of these skills are formed by age three. The preschool years are therefore critical to establishing patterns of rewarding and effective interaction.

A medium that capitalizes on social interactive skills and role-taking is sociodramatic play. Smilansky (1968) was the first to distinguish between the more common *dramatic play* - symbolic play with roles and imitative verbal and nonverbal activities; and the higher level *sociodramatic play*- elaboration of themes in cooperation with at least one other role-player. The cooperative interchange distinguishes the two.

Sociodramatic play requires verbal exchanges to plan, develop, and maintain the cooperative play. Likewise its maintenance demands problem-solving and reciprocal social manipulations and exchanges.

Only one intervention attempt through sociodramatic play is cited in the literature. It emphasized three areas of development; creativity, intellectual growth, and social skills (see Smilansky, 1968). In this effort 34 classes of preschool and kindergarten Israeli children were observed. Three treatment groups with disadvantaged children were compared to a culturally disadvantaged and an advantaged control group. Teachers rated the children's verbalizations and level of play before and after treatment. The most significant improvements were observed in the additive model where children received both opportunities to observe and discuss common experiences plus guidance in developing dramatizations of their experiences as sociodramatic play. Disadvantaged children were found to lack sequence in their activities and conversations and to have more difficulty in dramatizing play situations. Although disadvantaged children improved in the quality of their play behavior under the guided treatment conditions, they never attained the level of play as exhibited by the advantaged control group. No differences were observed in play attainment based on sex or I.Q.

The MSU Sociodramatic Play Curriculum was developed and first implemented in the context of a larger socialization treatment condition in a longitudinal research study on the social skill development of preschool children (Boger and Cunningham, 1970). In this research and development effort two cohorts of 32 children each participated in a two year preschool program. The initial cohort were controls and the second cohort were involved in experimental classes with the socialization curriculum. This comprehensive socialization intervention effort consisted of four types of activities: 1) classroom organization and management guidelines, 2) group activities, 3) dyadic activities, and 4) sociodramatic play activities. Key behaviors that were modeled and reinforced were: taking turns, sharing, cooperating, verbalizing needs, and tolerating other children's patterns of interaction.

The sample consisted of 64 children comprising a balanced 2x2x2 way design. One dimension was that of treatment, wherein

The socialization curriculum was compared to a traditional two-year preschool program. In addition, three demographic variables were included as independent variables; sex, race, and SES with two levels each. The dependent measures included both cognitive and social interaction dimensions of behavior. Baseline data were secured with the following instruments: 1) videotaped ratings of mother-child familialization tasks, 2) Cincinnati Autonomy Test Battery, 3) Binet Rating Scale, 4) Inventory of factors affecting test performance, 5) House-Tree-Person Test, 6) Mother-child interaction on the Toy Sorting and Eight Block Sort Task, 7) Father-child interaction on a Nine Block Sorting Task. Continuous classroom and videotaped observations of peer interaction in experimental situations were conducted throughout the two year period. Post program measures included the Cincinnati Autonomy Test Battery, Binet Rating Scale, and the Inventory of Factors.

Preliminary analyses of covariance noted significant treatment vs. control differences. The treatment group had more interactions with peers, initiated more, were more active, and had a more positive physical tone than did control groups. They were also more tolerant of unfamiliar behavior, exhibited more overt rejections as compared to withdrawals, and had more verbalizations with a more positive affect than did controls. In contrast the control group seemed to be more passive and rejecting of interactions (Boger and Cunningham, 1974). These initial results support the theory that differential socialization behaviors exist in the preschool years and that intervention during this time can have a positive impact on emerging social skills.

A key target of intervention in this study was the child's spontaneous and structured social interactions with peers in a play context. Of particular interest were structured sociodramatic play settings with carefully planned sequences of activities.

Marshall (1961) found that a child's ability to get along with peers and his status in the nursery group were related to frequency of participation in dramatic play activities. In turn, ability to indulge in dramatic play was positively related to opportunities to talk with parents and others about experiences, and negatively related to parental punitive control and overpermissiveness.

Children reflect in their own behavior the type of control which parents have used in guiding their behavior (Bishop, 1951). The home provides numerous role models and normative expectations that the child carries into his experiences with peers in the school setting.

Teachers also provide an important mediating influence on peer relationships, strengthening or discouraging patterns of peer interaction. The teacher plays an important role in setting the tone as well as the stimulation potential of the environment (Butler, 1971). By establishing the rules and expectations of the setting, by carefully intervening to facilitate social learning, and by modeling critical verbal and nonverbal behaviors, the teacher can actively influence the child's development of social skills.

Thus both the home and the school have the potential for effecting change in the child's social skill development and in his patterns of interaction with peers.

Summary

As the child develops, he takes on an increasingly more active role in exploring his physical as well as his social environment. Interaction patterns established in the home have a continuing impact on how the child relates to his environment.

The child's first contact with a stable peer group and significant adults outside of the family is a critical time in the child's life. It is an opportunity to explore new social roles, develop strategies to cope with new expectations and reinforcement patterns and establish new social relationships.

Early group experiences can provide an ideal environment for social development. But whether early group experiences, in particular day care, meet the needs and enhance the development of children depends on the quality of the interaction that occurs.

Parent-teacher, teacher-child and child-child interactions must be positive, constructive and mutually pleasurable.

Programs that help parents enhance the quality of their interactions with their children and mediate their child's learning experiences between the home and school, and programs that help teachers foster peer interactions for more positive social skill development are noteworthy endeavors reviewed in this chapter.

METHODOLOGY

CHAPTER III

Design

This study employs a five way design model of a quasi-experimental nature. The primary independent variable is treatment with four levels defined as follows:

1. regular day care center program(control)
2. day care center program plus supplemental classroom activities (MSU Sociodramatic play curriculum)
3. day care center program plus supplemental parent program (Parents Are Teachers Too)
4. day care center program plus both supplemental classroom activities and parent program

Although centers were nested within treatments (two centers per treatment) a blocking variable, center auspices, was included in the design. Therefore the four private franchised centers were randomly assigned one center per treatment and the four non-franchised centers were randomly assigned one center per treatment. Subjects are nested within centers. All of the children within the criteria range (see description of sample) enrolled at the sampled centers were included in the study.

Two primary demographic characteristics of the children in the centers were also included as design factors. The variables, sex and socioeconomic group membership, are crossed with each other and also with respect to both center and treatment. The matrix for this design is as follows:

		T_1		T_2		T_3		T_4	
		F	NF	F	NF	F	NF	F	NF
		C_1	C_2	C_3	C_4	C_5	C_6	C_7	C_8
Low SES	M								
	F								
Mid SES	M								
	F								

Figure 3-A

DESIGN MATRIX

It has been recognized that race may be considered a confounding variable. It was not included as an independent variable because of the sampling difficulties an additional characteristic would impose on an already difficult task. As a field study, day care centers with existing populations were sampled. A primary consideration during sampling was to secure centers with a socioeconomic balance that did not reflect racial inequities,i.e. low SES Blacks and mid SES Anglos. Centers with majority (90% or better) Black or Anglo populations were included in the study as well as centers with similiar racial distributions across socioeconomic lines.

An additional "race constant" procedure was implemented in the controlled play situation to help exclude confounding racial effects on the play behavior observed.

Examiners

All of the observations and individual testing procedures were conducted by trained members of the Institute for Family and Child Study staff. Graduate students in Family and Child Sciences at MSU assumed the main responsibility for data collection. Four testers were hired for individual testing who were not enrolled at MSU but who held degrees in Education, Sociology or Psychology and had had experience working with young children.

All testers were trained by the project coordinator. The various training methods included viewing and discussing video-tapes of the testing procedures, practice-testing with children from a local day care center not included in the sample, and observation in the laboratory preschool classrooms at the Institute for Family and Child Study. When appropriate, inter-observer reliability was established equal to or greater than that suggested by the instrument description.

Undergraduates assisted with the video-tape observational ratings and the coding of the data. These students also had previous experience working with young children and were pursuing degrees in the social sciences. They too were trained by the project coordinator.

All staff members involved in data collection were Anglo. With the exception of two males assigned the observations in the mobile unit and individual testing; all other testers and observers were female.

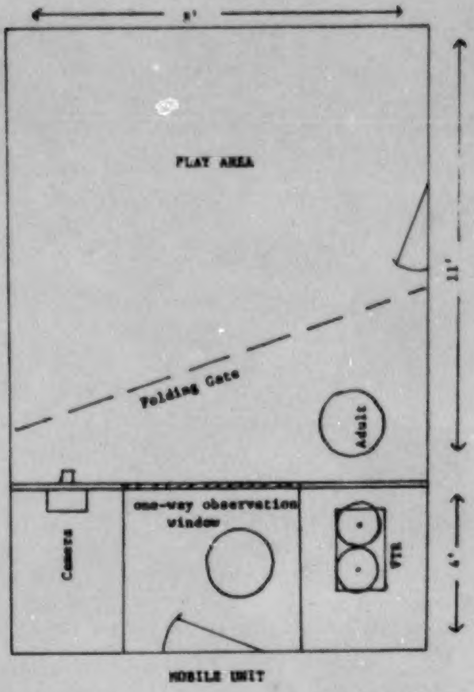
Facilities

All of the data gathering procedures were conducted on site at the various day care centers. Classroom observations were conducted in one preselected classroom or division of a classroom at each center. Individual testing was done in various locations in the centers; offices, teacher's lounges, conference rooms and other private areas away from the other children and staff.

The only additional space provided by the Institute for Family and Child Study was a mobile classroom, measuring 11' x 8'. This space was used for the controlled play situation which was video-taped for subsequent rating using the Observation of Socialization Behavior Instrument.

The mobile classroom is completely carpeted, lighted, and heated similar to any indoor space. A portable wooden expanding gate extends across the room at the point marking the limit of the lower visual field of the camera. A space behind the expanding gate is provided for the examiner to sit outside of the children's interaction range. A diagram of the mobile unit is shown in Fig. 3.B.

Figure 3-8


8'
PLAY AREA
11'
Folding Gate
Adult
one-way observation window
Camera
VTR
4'
MOBILE UNIT

The Media Unit of the Institute for Family and Child Study provided the technical expertise and equipment needed for data gathering and video-tape rating.

The Data Analysis and Support Unit of the Institute for Family and Child Study provided help in selecting and implementing analyses strategies. The CDC 6500 Computer Facility at the MSU Computer Center was used for data analyses.

SAMPLE

Sample Selection

Initial information concerning potential cooperating centers was secured through the State Day Care Licensing division of the Department of Social Services and Area 4-C coordinators. After screening lists of potential centers against basic criteria; staff contacts and visits ensued. The criteria for center eligibility included the following:

1. Distance from MSU--Max. 70 miles
2. Listing with the licensing divisions of the State Department of Social Services
3. Offering a full day program
4. Comparable philosophy, program, and staff qualifications
5. No simultaneous participation in other research or program obligations
6. Heterogeneous enrollment of children to meet the following Sample needs:
    a. Age range--3 1/2 - 5 years
    b. Enrolled for four half days/week
    c. Min. of 16 Low SES (8 boys, 8 girls excluding kindergartenges) 16 Mid SES (8 boys, 8 girls) children
    d. Racial balance or all one race across cells

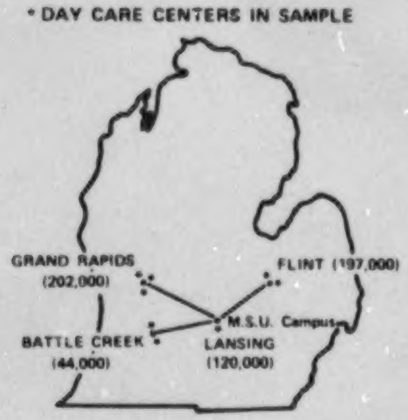
Note: SES membership initially determined by eligibility for Social Service Assistance.

In order to secure an adequate number of children within the age and enrollment range, medium to large sized centers were approached. All centers considered met the first five criteria. The distribution of children across sex, SES, and ethnic groups was the most difficult sampling criterion to satisfy. The centers selected offered the best balance in enrollment of those centers available and willing to participate. Once selected, the centers were randomly assigned to treatment conditions based on their center auspices--franchised or non-franchised.

Basic Description of Centers

The eight centers were located in four large cities in lower Michigan. The geographical location of these centers is illustrated in Figure 3.C.

FIGURE 3.C


• DAY CARE CENTERS IN SAMPLE
GRAND RAPIDS
(202,000)
FLINT (197,000)
M.S.U. Campus
BATTLE CREEK
(44,000)
LANSING
(120,000)

Size

The size of each center as reflected in licensed capacity and enrollment is illustrated in Table 3.1a&b. The licensed capacity of these centers ranged from 47 to 120 with an average of 87.12. The actual enrollment ranged from 70-166 with an average of 117.75.

TABLE 3.1a

SIZE OF CENTERS

CENTERS	1	2	3	4	5	6	7	8	Average
Licensed Capacity	68	56	47	120	107	96	96	107	87.12
Enrollment	70	100	70	120	166	149	135	132	117.75

TABLE 3.1b

AVERAGE SIZE OF CENTERS NESTED IN TREATMENTS

Treatments	T_1	T_2	T_3	T_4
Licensed Capacity	76	87.5	77	108
Enrollment	125.5	101	118	127.5

Ethnic Distribution

One center had a 90% enrollment of black children, three centers were 90% or more anglo and the other 4 centers enrolled mixed populations of between 60-80% anglo, 20-40% black. (see Table 3.2)

TABLE 3.2

ETHNIC DISTRIBUTION OF CENTERS

Centers	1	2	3	4	5	6	7	8
ANGLO	9%	98%	90%	61%	66%	92%	80%	82%
BLACK	90%	1%	9%	38%	34%	6%	20%	17%
OTHER	1%	1%	1%	1%	0%	2%	0%	1%

Social Economic Status Distribution

The percentage of the total centers' enrollment receiving public financial assistance for day care (ADC) is illustrated in Table 3.3. Additional families received aid in the form of reduced fees in centers 1, 3 and 4 which is not reflected in these figures.

TABLE 3.3

PERCENTAGE OF TOTAL CENTER POPULATION RECEIVING AID TO DEPENDENT CHILDREN

CENTERS	1	2	3	4	5	6	7	8
ADC	33%	15%	23%	14%	31%	30%	40%	55%

All of the centers enrolled children aged 2 1/2 through 5 years and offered services for 10 1/2 to 16 hours per week day.

Three out of four of both the franchised and non-franchised centers had existing forms of parental participation upon joining the study. Two of the non-franchised centers had active parent boards and one franchised center was organizing a parent board. Other forms of parental participation consisted of parent conferences, participation in special events, periodic parent meetings, and the use of parent volunteers for assistance during field trips and parties. None of the centers had ever provided parent education programs for their parents.

Likewise, none of the centers had ever adopted a curriculum or program focusing on social development prior to participation in the study. These centers were also not presently following any systematic curricula in any area, but rather relied on teacher designed activities. The actual number of children at each center pre- and post-tested and the resulting attrition rate is presented in Figure 3-D.

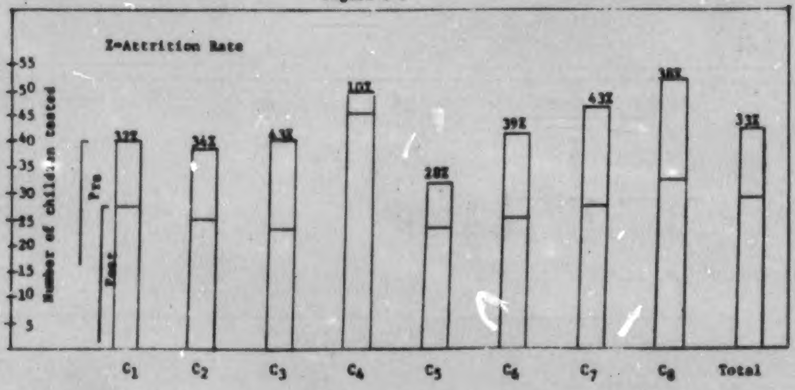
Further description of the centers is provided in Appendix C.

DESCRIPTION OF CHILDREN IN THE SAMPLE AND THEIR FAMILIES

Various demographic descriptors of the children and families comprising the centers' clientele participating in the study are discussed and illustrated in Tables 3.4 through 3.17. For convenience, the data is grouped (1) by center, the first four being non-franchised, the second four franchised; (2) by treatment condition. Only those children within the center whose data is used in the analyses are included in this sample description.

All of the children enrolled in the day care centers who met the age and enrollment criteria were included in initial data gathering procedures and pretesting. As attrition was to be expected, every effort was made to secure a complete battery of pretests on the entire eligible group of children. The average rate of attrition from the beginning of pretesting to the end of post-testing seven months later was 33%(See Fig. 3.D). This figure reflects a greater than expected drop-out rate from the day care centers. One explanation may be the energy crisis that disrupted employment in Michigan's auto and related industries during the winter of 1973-74.

Figure 3-D



NUMBER OF CHILDREN PRE AND POST TESTED:ATTRITION

Sex

Although the distribution by sex within each center varied, the total sample was evenly divided with 48% female and 52% male (Table 3.4a,b).

TABLE 3.4a

PERCENT AND FREQUENCY DISTRIBUTION BY SEX & SOCIAL ECONOMIC STATUS (SES)

	1		2		3		4		5		6		7		8	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
SEX																
Male 1	8	30.77	11	45.83	12	60.00	23	53.49	15	57.69	13	48.15	16	64.00	18	56.25
Female 2	18	69.23	13	54.17	8	40.00	20	46.51	11	42.31	14	51.85	9	36.00	14	43.75
SOCIAL ECONOMIC STATUS																
Low	15	57.69	11	45.83	10	50.00	19	44.19	10	38.46	14	51.85	16	64.00	17	53.13
Mid	11	42.31	13	54.17	10	50.00	24	55.81	16	61.54	13	48.15	9	36.00	15	46.88

TABLE 3.4b

PERCENT AND FREQUENCY DISTRIBUTION BY SEX & SOCIAL ECONOMIC STATUS (SES)

	T_1		T_2		T_3		T_4		Total	
	N	%	N	%	N	%	N	%	N	%
SEX										
Male 1	24	47.06	26	44.83	27	58.70	39	57.35	116	52.02
Female 2	27	52.94	32	55.17	19	41.30	29	42.65	107	47.98
SOCIAL ECONOMIC STATUS										
Low	25	49.02	32	55.17	20	43.48	35	51.47	112	50.22
Mid	26	50.98	26	44.83	26	56.52	33	48.53	111	49.78

Social Economic Status (SES)

The criteria for delineating social economic group membership were adopted from the short form of the McGuire and White (1955) research tool, The Measurement of Social Status (See Appendix A). Weighted scales composed of the social status components for occupation, source of income, and education were evaluated for the principal wage earner of the family. For conditions where both parents were fully employed, the father's index score was used. In cases where there were extreme variances between maternal and paternal SES index scores, a subjective evaluation employing the median, or the mother's index score was selected as the characteristic for the child's SES value.

The information needed to determine SES membership was secured from the parents in the form of a general information sheet. The even distribution by SES group membership for the entire sample is reflected in Table 3.4a&b, with 50% of the sample considered low SES and 50% middle SES. As the process of ascribing SES membership to a family provided a continuous score value, the means and standard deviations are presented in Table 3.5. The total sample means is 50.25 with a standard deviation of 14.06. When determining SES, an index score value of 51(±3) was considered the critical cut-off point between middle and low SES groups. Scores from 48-54 were considered flexible and could be placed in either group based on other idiosyncratic information.

TABLE 3.5

MEANS AND STANDARD DEVIATIONS ON SES VALUE

Non-franchised centers				Franchised centers				Treatments			
Center	N	Mean	s.d.	Center	N	Mean	s.d.	Treatment	N	Mean	s.d.
C_1	26	54.19	13.21	C_8	32	54.06	18.10	T_1	51	49.61	14.21
C_2	24	46.79	13.82	C_6	27	52.11	14.32	T_2	58	54.12	15.96
C_3	20	50.40	12.07	C_5	26	48.81	13.92	T_3	46	49.50	13.03
C_4	43	45.67	10.48	C_7	25	51.80	14.63	T_4	68	47.93	12.43
Total	113	48.71	12.40	Total	110	51.83	15.41				
								Grand Total	223	50.25	14.06

Ethnic Background

Although ethnicity is not a design variable, it is an important element in describing the sample. For the purposes of this study, a child was considered black if either or both natural parents were negro. He was considered anglo if both natural parents were caucasian. As illustrated in Table 3.6a&b, 70% of the sample were anglo, 28% black and less than 2% other ethnic groups either Chicano or Indian.

When divided by treatment condition, greater variation in ethnicity is observed. T_1 was practically 100% anglo, T_2 was more evenly divided, 50%-50%, T_3 was approximately 35%-65% black to anglo, and T_4 25%-75% black to anglo.

TABLE 3.6a

PERCENT AND FREQUENCY DISTRIBUTION BY ETHNIC BACKGROUND

	1		2		3		4		5		6		7		8	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Black	24	92.31	0	0.00	6	30.00	13	30.23	10	38.64	0	0.00	5	20.00	4	12.50
White	1	3.85	24	100.00	14	70.00	30	69.77	16	61.54	26	96.30	20	80.00	26	81.25
Other	1	3.85	0	0.00	0	0.00	0	0.00	0	0.00	1	3.70	0	0.00	2	6.25

TABLE 3.6b

PERCENT AND FREQUENCY DISTRIBUTION BY ETHNIC BACKGROUND

	T_1		T_2		T_3		T_4		Total	
	N	%	N	%	N	%	N	%	N	%
Black	0	0.00	28	48.28	16	34.78	18	26.47	62	27.80
White	50	98.04	27	46.55	30	65.22	50	73.53	157	70.40
Other	1	1.96	3	5.17	0	0.00	0	0.00	4	1.79

Age

The children's mean age as of Jan.1,1974 was fairly similiar across centers as illustrated in Table 3.7. The mean age for the entire sample was 53.64 months with a standard deviation of 5.99 months. A much larger number of the children in the sample were over four years (N=185) than younger than four years (N=48). Based on the sampling criteria, only children who were 40 months as of January 1,1974 were included in the sample. Children who attended Kindergarten for any part of the day were excluded from the sample.

TABLE 3.7

MEANS AND STANDARD DEVIATIONS ON AGE IN MONTHS AS OF JANUARY 1, 1974

Non-franchised centers				Franchised centers				Treatments			
Center	N	Mean	s.d.	Center	N	Mean	s.d.	Treatment	N	Mean	s.d.
C_1	26	53.81	6.36	C_8	32	53.56	4.42	T_1	51	53.90	6.59
C_2	24	54.50	6.64	C_6	27	53.37	6.62	T_2	50	53.67	5.33
C_3	20	50.50	8.38	C_5	26	54.19	5.56	T_3	46	52.59	7.09
C_4	43	55.47	4.07	C_7	25	51.84	6.22	T_4	68	54.13	5.23
Total	113	54.00	6.27		110	53.27	5.69				
								Grand Total	223	53.64	5.99

Enrollment

The vast majority (84%) of the children in the sample were enrolled full time for five days per week. As illustrated in Tables 3.8 & 3.9 the mean number of days per week enrolled ranged from 4.47 to 4.91 across treatments with a mean of 4.76 days and a standard deviation of .63 for the entire sample.

TABLE 3.8

ENROLLMENT: NUMBER OF DAYS PER WEEK

	TREATMENTS		
	N	Mean	s.d.
T_1	51	4.47	1.01
T_2	58	4.63	.42
T_3	46	4.76	.60
T_4	68	4.91	.29
Total	223	4.76	.63

TABLE 3.9

ENROLLMENT: NUMBER OF HALF-DAY EQUIVALENTS

	TREATMENTS		
	N	Mean	s.d.
T_1	51	8.63	2.42
T_2	58	9.64	.93
T_3	46	9.17	1.89
T_4	68	9.75	.82
Total	223	9.35	1.59

Length of Enrollment and Present Day Care Center

As the children's familiarity with the day care center and the children may influence the child's participation in the treatments, Table 3.10 describes the mean number of months children have been in attendance at the Day Care Center prior to September 1, 1974. For the entire sample, the mean number of months since the child entered the center to September 1, is 7.45 months with a standard deviation of 7.92. This indicates a wide range of prior attendance. Within treatments conditions 2 and 4 the children's mean enrollment is higher than within treatment conditions 1 and 3. The non-franchised centers appear to have the greatest variability in prior enrollment.

TABLE 3.10

MEANS AND STANDARD DEVIATIONS ON MONTHS SINCE CHILD ENTERED CENTER TO SEPTEMBER 1, 1973

Non-franchised centers				Franchised centers				Treatments			
Center	N	Mean	s.d.	Center	N	Mean	s.d.	Treatment	N	Mean	s.d.
C_1	26	11.23	7.78	C_8	32	7.06	7.48	T_1	51	5.67	6.20
C_2	24	6.17	6.69	C_6	27	5.22	5.82	T_2	58	8.93	7.83
C_3	20	4.75	8.06	C_5	26	6.04	7.64	T_3	46	5.48	7.27
C_4	42	9.79	9.24	C_7	25	7.32	7.99	T_4	67	8.87	8.81
Total	112	8.45	8.46	Total	110	6.43	7.22				
								Grand Total	222	7.45	7.92

Family Status

Family status is a descriptor that indicates whether or not the child in the sample was a member of a two parent family or a single parent family at the time of the study. This family composition does not necessarily define natural parents but merely describes the presence or absence of two adults head(s) of the family.

The percentage of single parent families varied across day care centers and treatments. Treatment conditions 2 and 4 had the largest percentage of single parent families (70%) as compared to two parent families (30%) while treatment conditions 1 and 3 had a more even distribution between single and two parent families (see Tables 3.11a&b).

TABLE 3.11a

PERCENT AND FREQUENCY DISTRIBUTION BY FAMILY STATUS AND ORDINAL POSITION

	1		2		3		4		5		6		7		8	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
FAMILY STATUS																
Single (1)	18	59.23	12	50.00	4	20.00	29	67.44	17	65.38	17	62.96	19	76.00	22	68.75
Two parent (2)	8	30.77	12	50.00	16	80.00	14	32.56	9	34.62	10	37.04	6	24.00	10	31.25
ORDINAL POSITION																
First child	11	42.31	14	58.33	12	60.00	30	69.77	13	50.00	17	62.96	14	56.00	13	40.63
Second or third child	12	46.15	8	33.34	4	20.00	12	27.91	11	42.30	7	25.92	11	44.00	17	53.13
Fourth or younger	3	11.55	2	8.34	4	20.00	1	2.33	2	7.70	3	11.11	0	0.00	2	6.25

TABLE 3.11b

PERCENT AND FREQUENCY DISTRIBUTION BY FAMILY STATUS AND ORDINAL POSITION

	T_1		T_2		T_3		T_4		TOTAL	
	N	%	N	%	N	%	N	%	N	%
FAMILY STATUS										
Single (1)	29	56.86	40	68.97	21	45.65	48	70.59	138	61.88
Two parent (2)	22	43.14	18	31.03	25	54.35	20	29.41	85	38.12
ORDINAL POSITION										
First child	31	60.78	24	41.38	24	52.17	44	64.71	124	55.71
Second or third child	15	29.41	29	50.00	15	32.61	23	33.82	82	36.78
Fourth or younger	5	9.80	5	8.62	6	13.04	1	1.47	17	7.63

Ordinal Position and Family Size

Across all centers, the greatest majority of children were either the first or second child in the family. In fact, 56% of the children in the total sample were first-born. (See Table 3.11a&b). The mean family size for the entire sample was 2.04 children with a standard deviation of 1.44 (see Table 3.12).

TABLE 3.12

MEANS AND STANDARD DEVIATIONS FOR NUMBER OF CHILDREN IN THE FAMILY

Non-franchised centers				Franchised centers				Treatments			
Center	N	Mean	s.d.	Center	N	Mean	s.d.	Treatment	N	Mean	s.d.
C_1	26	2.31	1.64	C_8	32	2.06	.95	T_1	51	1.86	1.10
C_2	24	1.96	1.00	C_6	27	1.78	1.19	T_2	58	2.17	1.30
C_3	20	2.90	2.75	C_5	26	2.23	1.53	T_3	46	2.52	2.15
C_4	43	1.56	.93	C_7	25	2.00	1.19	T_4	68	1.72	1.05
Total	113	2.05	1.63	Total	110	2.02	1.21				
								Grand Total	223	2.04	1.44

Maternal Education & Occupation

A large percentage of the mothers of children in the sample had attended or completed college. As illustrated in Tables 3.13a&b, in all centers except center 8, and in all treatment conditions at least 50% of the mothers had attended or completed college. Only 14% or fewer of the mothers in the centers had less than a high school education. Across treatment conditions this figure ranged from 3% to 14% for mothers with less than a high school education.

TABLE 3.13a

PERCENT AND FREQUENCY DISTRIBUTION BY MOTHER'S EDUCATION

	1		2		3		4		5		6		7		8	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Less than 12 years	1	3.85	2	8.33	3	15.00	0	0.00	3	11.54	3	11.11	1	4.17	2	6.25
Less than 12 years + Occupational training	0	0.00	1	4.17	0	0.00	0	0.00	0	0.00	1	3.70	1	4.17	2	6.25
High school	5	19.23	2	8.33	4	20.00	4	9.30	5	19.23	4	14.81	2	8.33	8	25.00
High school + Occupational Training	4	15.38	3	12.50	5	25.00	5	11.63	2	7.69	4	14.81	8	33.33	7	21.88
Some college	11	42.31	9	37.50	5	25.00	18	41.86	7	26.92	10	37.04	9	37.50	10	31.25
College degree	5	19.23	3	12.50	3	15.00	10	23.26	7	26.92	5	18.52	3	12.50	2	6.25
Advanced degree	0	0.00	4	16.67	0	0.00	6	13.95	2	7.69	0	0.00	0	0.00	1	3.13

TABLE 3.13b

PERCENT AND FREQUENCY DISTRIBUTION BY MOTHER'S EDUCATION

	T_1		T_2		T_3		T_4		Total	
	N	%	N	%	N	%	N	%	N	%
Less than 12 years	5	9.80	3	5.17	6	13.04	1	1.49	15	6.76
Less than 12 years + Occupational training	2	3.92	2	3.45	0	0.00	1	1.49	5	2.25
High school	6	11.76	13	22.41	9	19.57	6	8.96	34	15.32
High school + Occupational training	7	13.73	11	18.97	7	15.22	13	19.40	38	17.12
Some college	19	37.25	21	36.21	12	26.09	27	40.30	79	35.59
College degree	8	15.69	7	12.07	10	21.74	13	19.40	38	17.12
Advanced degree	4	7.84	1	1.72	2	4.35	6	8.96	13	5.86

Although a large proportion of the mothers were highly educated, their occupational level did not consistently reflect this. A smaller proportion of the mothers could be considered semi-professional and professional. Only 16% to 41% of the mothers across centers are noted in the last three categories semi-professional or managerial and professional. (See Tables 3.14a&b). On the other hand 41% to 77% of the mothers

TABLE 3.14a

PERCENT AND FREQUENCY DISTRIBUTION BY MOTHER'S OCCUPATION

	1		2		3		4		5		6		7		8	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Semi-skilled	8	30.77	5	20.83	2	10.00	2	4.65	4	15.38	5	18.51	5	21.74	6	19.35
Clerk-Service	11	42.31	7	29.17	12	60.00	18	41.86	7	26.92	11	40.74	8	34.78	18	58.06
Sales	0	0.00	2	8.33	2	10.00	5	11.63	2	7.69	6	22.22	4	17.39	2	6.45
Semi-professional; Managerial	1	3.85	2	8.33	1	5.00	2	4.65	1	3.85	[illegible]	[illegible].41	0	0.00	1	3.23
Professional	6	23.08	7	29.17	3	15.00	14	32.56	12	46.15	[illegible]	11.11	6	26.09	4	12.90
Executive	0	0.00	1	4.17	0	0.00	2	4.65	0	0.00	0	0.00	0	0.00	0	0.00

TABLE 3.14b

PERCENT AND FREQUENCY DISTRIBUTION BY MOTHER'S OCCUPATION

	T_1		T_2		T_3		T_4		Total	
	N	%	N	%	N	%	N	%	N	%
Semi-skilled	10	19.61	14	24.56	6	13.04	7	10.61	36	16.36
Clerk-Service	18	35.29	29	50.88	19	41.30	26	39.39	92	41.82
Sales	8	15.69	2	3.51	4	8.70	9	13.64	23	10.45
Semi-professional; Managerial	4	7.84	2	3.51	2	4.35	2	3.03	10	4.55
Professional	10	19.61	10	17.54	15	32.61	20	30.30	55	25.00
Executive	1	1.96	0	0.00	0	0.00	2	3.03	3	1.36

across centers are noted in the semiskilled and medium skilled occupations of level 1 and 2.

Center 4 can be noted as being rather unusual in that a much greater number of the mothers of children in this center had completed a college education and occupied professional positions as compared to all other centers.

Paternal Education and Occupation

Although a much smaller number of fathers were available for the sample some similarities exist between mother's and father's educational attainment. A large number of fathers had attended or completed college as illustrated in Table 3.15a&b. Very few of the fathers had less than a high school education.

TABLE 3.15a

PERCENT AND FREQUENCY DISTRIBUTION BY FATHER'S EDUCATION

	1		2		3		4		5		6		7		8	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Less than 12 years	1	11.11	0	0.00	3	17.65	1	6.25	2	22.22	0	0.00	0	0.00	0	0.00
Less than 12 years + Occupational training	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	9.09
High school	2	22.22	4	33.33	2	11.76	2	12.50	0	0.00	0	0.00	1	12.50	0	0.00
High school + Occupational training	2	22.22	0	0.00	4	23.53	3	18.75	0	0.00	1	9.09	2	25.00	2	18.18
Some college	2	22.22	3	25.00	4	23.53	3	18.75	4	44.44	5	45.45	1	12.50	3	27.27
College degree	1	11.11	2	16.67	3	17.65	4	25.00	2	22.22	3	27.27	1	12.50	1	9.09
Advanced degree	1	11.11	3	25.00	1	5.88	3	18.75	1	11.11	2	18.18	3	37.50	4	36.36

TABLE 3.15b

PERCENT AND FREQUENCY DISTRIBUTION BY FATHER'S EDUCATION

	T_1		T_2		T_3		T_4		Total	
	N	%	N	%	N	%	N	%	N	%
Less than 12 years	0	0.00	1	5.00	5	19.23	1	4.17	7	7.53
Less than 12 years + Occupational training	0	0.00	1	5.00	0	0.00	0	0.00	1	1.08
High School	4	17.39	2	10.00	2	7.69	3	12.50	11	11.83
High School + Occupational Training	1	4.35	4	20.00	4	15.38	5	20.83	14	15.05
Some college	8	34.78	5	25.00	8	30.77	4	16.67	25	26.88
College degree	5	21.74	2	10.00	5	19.23	5	20.83	17	18.28
Advanced degree	5	21.74	5	25.00	2	7.69	6	25.00	18	19.35

Fathers' occupations varied greatly in all centers, and treatment conditions. Nearly equal numbers were semi or medium skilled as were semiprofessional and professional in all centers and treatments. (See Tables 3.16a&b).

TABLE 3.16a

PERCENT AND FREQUENCY DISTRIBUTION BY FATHER'S OCCUPATION

	1		2		3		4		5		6		7		8	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Semi-skilled	2	25.00	3	23.00	1	6.67	3	18.75	2	22.22	1	9.09	3	30.00	0	0.00
Clerk-Service	3	37.50	2	15.38	6	40.00	3	18.75	0	0.00	2	18.18	2	20.00	0	0.00
Sales	0	0.00	1	7.69	1	6.67	0	0.00	1	11.11	2	18.18	1	10.00	6	54.55
Semi-professional; Managerial	0	0.00	2	15.38	3	20.00	3	18.75	4	44.44	2	18.18	0	0.00	0	0.00
Professional	3	37.50	3	23.08	4	26.67	5	31.25	1	11.11	4	36.36	3	30.00	4	36.36
Executive	0	0.00	2	15.38	0	0.00	2	12.50	1	11.11	0	0.00	1	10.00	1	9.09

TABLE 3.16b

PERCENT AND FREQUENCY DISTRIBUTION BY FATHER'S OCCUPATION

	T_1		T_2		T_3		T_4		Total	
	N	%	N	%	N	%	N	%	N	%
Semi-skilled	4	16.67	2	10.53	3	12.50	6	23.08	15	16.13
Clerk-Service	4	16.67	3	15.79	6	25.00	5	19.23	18	19.35
Sales	3	12.50	6	31.58	2	8.33	1	3.85	12	12.90
Semi-professional; Managerial	4	16.67	0	0.00	7	29.17	3	11.54	14	15.05
Professional	7	29.17	7	29.17	5	20.83	8	30.77	27	29.03
Executive	2	8.33	1	5.26	1	4.17	3	11.54	7	7.53

Source of Day Care Fees

In Tables 3.17a&b the fee distribution of families across centers and treatment conditions is illustrated. In the franchised centers, families either received aid for dependent children or privately paid full fees. In three of the non-franchised centers 50% to 72% of the families received aid in the form of partial fees as these centers provided a sliding scale for fee payment based on family need.

Across treatment conditions, 27% to 40% of the families of children in the sample received aid for dependent children from the State Department of Social Services to cover day care expenses.

TABLE 3.17a

PERCENT AND FREQUENCY DISTRIBUTION BY SOURCE OF DAY CARE FEES

	1		2		3		4		5		6		7		8	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
ADC	9	34.62	7	29.17	5	25.00	3	6.98	13	52.00	12	44.44	15	62.50	14	43.75
Partial fees	16	61.54	0	0.00	10	50.00	31	72.09	0	0.00	0	0.00	0	0.00	0	0.00
Full fees	1	3.85	17	70.83	5	25.00	9	20.93	12	48.00	15	55.56	9	37.50	18	56.25

TABLE 3.17b

PERCENT AND FREQUENCY DISTRIBUTION BY SOURCE OF DAY CARE FEES

	T_1		T_2		T_3		T_4		Total	
	N	%	N	%	N	%	N	%	N	%
ADC	19	37.25	23	39.66	18	40.00	18	26.87	78	35.29
Partial fees	0	0.00	16	27.59	10	22.22	31	46.27	57	25.79
Full fees	32	62.75	19	32.76	17	37.78	18	26.87	86	38.91

IMPLEMENTATION PROCEDURES

The four franchised and four non-franchised centers were each randomly assigned one center per treatment condition. The Treatments were as follows:

T_1--Day care center program with supplemental classroom activities. (MSU Sociodramatic Play Curriculum)

T_2--Day care center program with supplemental parent program. (Parents are Teachers Too)

T_3--Day care center program with supplemental classroom activities. (MSU Sociodramatic Play Curriculum and Parents are Teachers Too)

T_4--Regular day care center program (control).

In those treatment conditions incorporating supplemental programs, the Day Care Center directors and M.S.U. project coordinator planned for the assignment of Day Care Center staff to implement the programs. Factors under consideration in selecting the staff were: general ability to establish rapport with parents, willingness, enthusiasm, stability of employment plans, ethnic background as related to majority clientele and for the sociodramatic play program; prior classroom assignment. Since the sociodramatic play program was to be implemented during the morning hours, the staff involved were those who were already supervising the three 1/2-5 year-olds who would become the sample.

Two graduate students at Michigan State University working on Ph.D. Programs in child development with at least three years of classroom experience at the preschool level were appointed program coordinators. These two students were responsible (one per program) for training the Day Care Center staff in the use of the supplemental programs and in supervising the selection and preparation of the materials and equipment needed to implement the programs at the day care centers.

All centers implementing supplemental programs were treated as follows:

1. The university staff (project coordinator and program coordinators) visited each center during evening parent meetings or at pick-up time to inform the parents of the research project and to answer any of their questions.
2. During pretesting, the university staff (project director, project coordinator, program coordinators) met with the entire day care center staff at each center to explain the purposes and objectives of the research study and to enlist cooperation in implementing the testing procedures and randomly assigned treatment conditions.
3. All testing was done by trained personnel from the Institute of Family and Child Study at the day care centers.
4. All programs ran concurrently for twelve weeks from January 1 to April 1.
5. The program coordinator for the MSU sociodramatic play program supervised all four centers implementing this curriculum.
6. The program coordinator for the Parents are Teachers Too program likewise supervised all four centers implementing this program.
7. In the two centers assigned treatment condition three (Both parent and classroom activities) separate day care center personnel were assigned to each program.

8. All materials needed to implement the supplemental programs were provided by the Institute for Family and Child Study, MSU.

9. Each center implementing supplemental programs was provided $35.00 per week to cover any expenses incurred by the research project (i.e., babysitting, transportation, and refreshments for parent meetings) and to provide monetary stipends to the day care center staff involved in implementing the programs.

IMPLEMENTATION SCHEDULE

1 month	September 1-October 1	Identification of Participating Day Care Centers
1 month	October 15-November 1	Preparation for project; Informing parents
2 1/2 months	October 15-January 1	Pretesting
3 months	January 1-April 1	Program Delivery
2 months	April 1-May 30	Post-Testing
4 months	June 1-September 30	Data Reduction & Analysis

PROGRAM IMPLEMENTATION

MSU Sociodramatic Play Curriculum

The sociodramatic play programs consisted of a series of four play themes developed over a period of three weeks each. The graduate student coordinator for the program from MSU visited each of the four centers implementing the curriculum on a weekly basis spending one full day at each site. One or two head teachers and aides were assigned to this program at each center.

The program coordinator worked with these staff members in the classroom during the morning hours; assisting with routine activities, helping organize play groups and analyzing teacher-child interaction patterns. For one to two hours in the afternoon one day each week the program coordinator planned with the staff the use of the curriculum, noted interaction sequences, and generally discussed with the teachers the children's progress with the play activities.

The teachers were requested to keep daily records concerning each child's participation with the curricular activities. The general sequence of classroom activities followed for each play theme was as follows:

first week--lead up activities

second week--sociodramatic play

third week--sociodramatic play and planning for the next theme.

The four play themes were: (1) Barber/Beauty Shop, (2) Bakery/Donut Shop, (3) Grocery, and (4) Doctor's Office. This sequence of themes provided a gradual flow into more complex social interactions requiring increasing verbal skill.

The sociodramatic play setting was set up and then dismantled when the play session was over each day when being used. Only those teachers/aides involved with the program supervised the use of these materials.

Parents are Teachers Too

The Parents are Teachers Too programs consisted of a series of ten workshops plus a post-evaluation session held weekly for 1 1/2-2 hours in the evening. All parents with children enrolled at the participating day care centers were invited to attend. The materials necessary for each parent workshop were gathered and prepared at the university by the research project staff. They were then delivered to the centers on a weekly schedule in advance of each week's parent meeting by the program coordinator for this program. The same coordinator conducted the training sessions at each of the four centers. The PTT workshop was planned with the day care center staff members assigned to the project when the materials were delivered to the individual centers. At all centers the director and one or two other teachers or aides conducted the program. During the planning session, teachers evaluated the previous week's meeting and discussed their concerns and reflections on the progress of the program. The new lesson was explained and background information relayed.

Each PTT lesson includes explanatory materials for both teachers and parents. The teacher guidelines include information on how group sessions can be conducted and how to involve parents. The parent "handout" provides information for parents on how to construct and use various materials with their children at home.

The teachers were encouraged to help parents adapt materials to provide challenging experiences for their children. The activities were planned to involve materials that lend themselves to individualization to specific children's interests and abilities. Various hints on how the materials could be adapted were also presented in the parent's handout.

In their first session, the teachers were instructed to explain the basic philosophy of the program to the parents, emphasizing the important role parents play in reference to their child's growth and development. This philosophy was continually emphasized throughout the program, calling upon parents to take on active teaching roles with their children while at the same time building warm, mutually rewarding relationships. By participating in the workshops with their child's teachers, parents also developed parent-teacher relationships that help bridge the gap between home and school.

Each PTT lesson includes a variety of activities and several games or toys to be constructed. The lessons are structured around these basic themes:

1. tactile experiences
2. music and fingerplays
3. puppets
4. color
5. books
6. art
7. cooking
8. science and math
9. lotto games
10. flannel boards

At the parent meetings these activities were explained and the parents were given the materials necessary to assemble the games and toys. The construction of the play materials offered an opportunity for informal social interaction and general discussion of childrearing problems and joys. Demonstration models were available for the parents to see but they were encouraged to be creative in making the toys or games appealing to their individual children. The children were very proud of the things "Mommy made for me," and often spoke of these activities to the teacher and class at school. Parents were urged to interact with their day care child on a one-to-one basis with the play materials for at least ten minutes each day. The teachers were requested not to use similar materials or activities at the center during the week that such activities were scheduled for the parent workshop.

Any parent who could not be present at the evening workshop was given an opportunity to pick up the materials and instructions for the lessons from his/her child's teacher. Teachers and directors provided written and verbal reminders to the patents each week concerning the schedule and agenda for each workshop. Babysitting and refreshments were always available and parents could arrange for tansportation with the center staff if needed.

INSTRUMENTATION

The data for this study were collected using a series of four instruments. Two of these instruments were direct observational techniques, one was a picture board sociometric and the last, a photographic projective technique used to measure the child's self concept. A description of each of these instruments, their administration and scoring procedures and their reliability is discussed in the following sections.

I. OBSERVATIONAL TECHNIQUES

Observational records have been used to study the social position of individual children in the group (Marshall & McCandless, 1957) as well as to note characteristic patterns of interaction (Parten, 1932; Boger and Cunningham, 1971). With this method, time or event sampling techniques are used to gather a sample of behaviors relative to a specific time period or situational encounter. Both live and videotaped observations can reveal comparable results depending on the complexity and scope of the behaviors of interest and the quality of the media (Paulson, 1972).

Direct Observational procedures can be concerned with behaviors as they occur either under naturalistic or controlled situations. Naturalistic, meaning the every day environment and controlled implying a specially designed or structured environment with the potential for eliciting specific behaviors of interest. Controlled situations limit the range of environmental influences and therefore offer the possibility of comparing behaviors in a standardized setting. Generalizability of the results, however, depend on the similarity of elements in the controlled setting to elements in real-life environments. Natural observations in selected situations (e.g., sandbox, classroom during free play) provide some commonality of experience while contributing minimal confounding due to the observational procedures themselves (Coller, 1972).

This present study incorporates two types of direct observations. (1) The Classroom Socio-observations occur in a natural setting, the classroom or a division of the classroom, during a selected activity--free play. (2) The Observation of Socialization Behavior (OSB) is a videotaped rating of free play in a controlled situation--a mobile classroom. Four children free play in a carpeted 8 x 10 ft. room that has 8-12 medium sized boxes available as play materials.

A. CLASSROOM SOCIO-OBSERVATIONS

The classroom observation is designed to assess peer associations and general quality of social involvement. Twelve children, three from each demographic cell (low SES girls, mid SES girls, low SES boys, mid SES boys) are randomly chosen to play together in a classroom or section of a classroom. Since the existing classroom composition of the participating centers did not contain equal representation from all demographic groups, this procedure was implemented to provide each child with the same probability of associating with a like vs. an unlike peer in reference to sex and SES.

Manipulative toys, dramatic play materials, or art activities are provided for free play. A teacher is present to supervise the play but does not structure the play activity except to organize the environment.

Procedure: An observer scans the room recording the spatial position of each child in relation to other children and his/her level of social involvement. The six levels of social involvement are: unoccupied, solitary play, onlooker behavior, parallel play, associative play and cooperative play. These dimensions were derived from Parten's study of social development (1932). A series of three consecutive observations are taken at the beginning of the play period and another three toward the end of the 30-minute period. Each child in the sample is observed on two and sometimes three separate days.

Content: The variables derived from the classroom socio-observations are:

1. level of social involvement--mean of social behavior ratings over all intervals.
2. peer proximity and association--average number of children in proximity or in interaction with S over all intervals.
3. heterogeneity of peer associations--number of intervals S is in interaction with a peer of a different sex or SES.
4. consistency of play behavior--the duration of play with each peer in relation in level of social involvement over three consecutive intervals.

Reliability: The training procedures implemented prior to data collection required 90% inter-observer agreement when two observers rated the same play behavior. Observers practiced in the Laboratory Preschool on Michigan State University campus and conducted independent but simultaneous observations of children in classrooms of 3 and 4 year olds to establish reliability. The actual inter-observer agreement attained was 99%.

An internal consistency coefficient of .81 (pre-test) and .80 (post-test) was observed on the variable,level of social behavior over three consecutive observations.

B. OBSERVATION OF SOCIALIZATION BEHAVIOR

The observation in the mobile classroom provides a sample of children's behavior in an open-field standardized setting. Children are grouped based on sex and SES (one low SES girl, one mid SES girl, one low SES boy, one mid SES boy, all of the same race). The situation is designed to allow as wide a range of behavior as possible, thereby providing an opportunity for the children to manifest preferred modes of behavior or behavioral "styles". The children are not directed in their behavior in the play situation and the materials present (boxes) provide no inherent play mode. "There is no overt indication of behavior expectations, and there is no attempt to guide, limit, or structure behavior" (Boger and Cunningham, 1970).

All of the children are brought into the mobile classroom prior to data collection to become familiar with the setting and equipment. Then upon entering the room for the play session, the children are read a brief statement explaining that they can play in any way they want so long as they don't hurt each other. They are also reminded to play behind the expandable gate. The adult observer is present but outside of the children's interaction range (behind the gate). He/she remains in the room working on papers so that he/she does not appear to be watching the children. The ten minute play session is recorded on videotape for subsequent rating and coding.

The rating method used is a combination time and event sampling procedure. At 20-second intervals a mechanical beep is superimposed on the audio portion of the tape. Raters record the first behavioral interaction at each 20-second mark, thus securing a time sampling of behaviors across the ten-minute play session for each child. In addition, if no peer interaction is recorded at the 20-second mark, the first subsequent peer interaction is also rated during each 20-second interval as an event sampling. The advantage of this procedure is that: (1) comparisons across children and groups can be made based on proportion of time spent at various behaviors, (2) the most important behavior of interest, peer interaction, can be observed even though it may occur at infrequent intervals.

The observation interval chosen for this study was 20 seconds. This time span was selected as it is sufficient to record a meaningful sequence of behavior in a manageable and recordable manner. The video media, however, was necessary to encode the total complexity of the behavioral interaction as proscribed by the rating procedure. Three and up to four playbacks were usually required to complete the rating process.

Content

Based on an ethological approach, more global styles of behavior were produced from the analysis of more molecular behavioral units. At each 20-second mark, various behavioral dimensions of the play involvement of each child is recorded. Fourteen behavioral dimensions were chosen as mutually exclusive, objectively describable categories of behavior.

1. Interaction (responses, ongoing play, initiations)
2. Object of interaction
3. Level of involvement
4. Peer impact
5. Verbalization
6. Verbal fantasy
7. Voice time
8. Physical behavior
9. Physical tone
10. Social behavior
11. Autonomy
12. Leadership
13. Social competency
14. Emotionality

Socio-Emotional Scales

All 14 behavioral codes apply to the same "bit" of play behavior or sequence of interaction that is observed and rated. Because of this behavioral contingency, patterns or styles of interactions can be developed from analyses of interaction sequences and relationships among behavioral events. This "contingency" dimension is a unique feature of this adapted version of the OSB.

Measures

Interaction and Involvement

The form, sequence, intensity and object of the play involvement is recorded. Since an interaction sequence is of interest, a response and initiation category was established. Responses include acceptance of another's initiation (A), rejection of another's initiation, (R) no acknowledgment nor awareness of another's initiation (N), ongoing interaction (0), and behavioral transition or eminent initiation (X). Following a response, an initiation may or may not occur. Initiation (I) is defined as an introduction of self or change in activity. Each of these two major categories are rated as to degree or intensity of involvement. Three levels range from intense to passive. The object of the involvement is also recorded as group (undifferentiated), adult, individual or pairs of individuals, materials, or environment.

Impact

The consequences of the subject's involvement is then recorded as reflected in the immediate behavior of the other three peers. Three response categories are available: acceptance, rejection, or no acknowledgment. Three levels of intensity of response are also rated. This behavioral dimension measures the environmental impact of the child's behavior. Based on communications theory it reflects a measure of environmental control and is useful in determining differential control patterns and the behavioral context of various types of responses.

Verbalization

The time sampling procedure allows for a measure of quantity of verbalization and the behavioral context permits analysis of the relationship between verbalizations and other behaviors. The Bales (1951) Interaction Process Analysis provides the basis for coding verbalizations (see Appendix). Twelve categories plus mumbling (unintelligible) are included. These categories are mutually exclusive and exhaustive with a complete verbal interaction being considered the unit. A more affective dimension of voice tone is also rated. It is a three-point scale; positive, negative, or neutral. The voice tone refers to the delivery not the content of the verbalization. In addition, each verbalization is rated as to fantasy or nonfantasy.

Physical Behavior

As much of the young child's behavior is nonverbal in nature, a physical behavior rating is included. One aspect, physical contact is rated in respect to the object of the interaction. When both materials and people are objects of interaction, the human interaction is considered first. Contact then refers to physical touching of another peer directly or indirectly through the medium of the play materials (boxes). When no human interaction is involved the contact may be with materials.

Another aspect of physical behavior is its positive or negative quality. As with voice tone, a physical tone is rated in reference to the affective nature and social acceptability of the behavior. Hitting, pushing, kicking are considered negative qualities. Tapping, patting, caressing, are considered positive qualities. Neutral behaviors refer to non-affective activities such as building or running.

Social Behavior

The ordinal scale developed by Parten (1932) was adopted as a measure of the child's social behavior. The categories include unoccupied play, solitary play, onlooker, parallel play, associative play, and cooperative play in order of increasing sociability and maturity. The criteria for the various categories include spatial proximity to other children, similarity of materials, nature of interaction and goal-directedness of play. The social behavior dimensions provide a measure of quality of social interaction as well as an overall measure of social maturity.

Socio-emotional Dimensions

The general tone of the child's social and emotional behavior is also rated but admittedly is based on more subjective judgments on the part of the raters. Specific behavioral cues help define the dimensions and a five-point scale based on the observability of the behaviors help objectify the rating procedures.

Four dimensions are rated: autonomy, social leadership, social competency, and emotionality. As defined, these dimensions are mutually exclusive. A five-point ordinal scale is used to rate them. The extreme positions both positive (5) and negative (1) are designated for overt behaviors representative of the dimension. The central position (3) is a neutral non-observable indicator. The two intermediate positions (4) and (2) represents covert behavioral cues or mild overt behavioral indications of the dimension.

These ratings provide an indication of the general social and emotional nature of the behavioral interactions and are rated contingent upon the other categories of behavior described above.

The observation of socialization behavior (OSB) instrument has the potential for identifying a wide range of variables and several approaches to analysis are possible. For the purposes of this study, primary variables were formed based on frequencies, means, and proportions of time spent in various behavioral categories. Secondary variables concerned with (1) contingent frequencies of one behavior occurring simultaneous with another (e.g., verbal command with physical contact of a negative nature); and (2) relationships (e.g., the relationship between physical tone and impact) among behaviors were also formed.

A summary list of the variables used in analyses can be found in Appendix A.

Reliability

Two forms of reliability are discussed in the literature relative to observational measures. The most common form is inter-rater agreement often referred to as inter-rater reliability. Basically it is an indication of how consistent the behaviors are identified by more than one person (or by the same person across different points in time). In order to maintain high inter-rater agreement, behavioral units must be recognizable and objectively encodable therefore reflecting the validity of the categories of behavior.

The minimum level of inter-rater agreement for this study was defined as 85% on total recordable positions. The actual percentage of agreement ranged from 86% to 98% agreement between any two raters over a ten minute sequence of play activity. An additional problem referred to as "instrument decay" often affects the reliability of rating procedures. In order to counteract this gradual drift away from concensus, periodic group discussions and inter-observer checks were conducted.

The second form of reliability noted in the literature is a measure of the internal consistency of behavioral units. A test-retest method measures consistency over time. The type employed in most observational techniques is a split-half method assessing the consistency over sampled items at the same point in time. The adequacy of the sampling of behaviors influences this measure as well as the intrinsic stability of the behaviors of interest. In one study, only behavioral categories reporting an internal consistency of .5 or better were included in the data analysis (Smith and Connally, 1972). The establishment of such criterion would depend on the purposes for which data were used. In the present study the internal consistency of only those variables requiring a code during each interval were analyzed. Results of these analyses are reported in Appendix A.

II. SOCIOMETRIC TECHNIQUES

Measures developed for the purpose of measuring peer acceptance and friendship preferences are often referred to as sociometric techniques. Such measures provide a useful tool for understanding how children evaluate one another or differentially associate with one another. Sociometric instruments incorporating an interview or questionnaire format requiring rank-order responses are frequently used to tap such social relation tendencies. With elementary aged and older children questions such as: "Whom would you like to have sit next to you in this classroom?" are typically posed.

With the preschool child, picture-board techniques have been developed to aid the child in recognizing the field of choice and to provide a concrete, though representational, object of choice. McCandless and Marshall (1957) found a picture board array of the photographs of the children in the classroom to be an appropriate format to elicit reliable and valid (compared to teacher ratings) indicators of friendship preferences in a nursery classroom. However, the verbal communication and conceptual and attentional base required to elicit a response even with a picture board array made this type of sociometric technique suspect when dealing with children from varied cultural and socioeconomic backgrounds.

PLAY SITUATION PICTURE BOARD SOCIOMETRIC

An adaptation of this technique was therefore developed to assess Head Start children in 1967-69. The Play-Situation Picture Board Sociometric developed by Robert P. Boger (Boger and Knight, 1969) utilizes pictures of toys and play situations to stimulate a cognitive set regarding play activities with playmates. A set of six stimulus pictures portraying play situations are presented to S, and S is asked to select the three play situations he prefers. These situations are then presented to the S, in order of preference, with his own picture attached in an appropriate position indicating his playing with the play object (e.g., on one swing). S is then asked to select from the picture board array a photograph of the child he would most like to play with in the activity portrayed. The S's actual behavioral response in selecting or naming a child from the group of photos is his sociometric choice. This procedure is repeated for each of the three play situations selected. Both "best liked" and "least liked" choices are possible. (See Appendix A for instrument descriptions).

Reliability

Peer preferences have been viewed as relatively stable behaviors in the research literature (Hartup, 1970). Yet with young children these indicated preferences evidence great fluctuations. Whether this instability is a result of imperfections in the reliability of the measurement instruments or inherent in the phenomenon itself is difficult to determine. Differences in responses noted in a test-retest procedure depend on (1) the length of time between testing occasions, (2) the age of the child, (3) the degree of acquaintanceship, (4) the context of choice, as well as possibly other factors.

With preschoolers, test-retest correlations range from .41 to .76 in subgroups ove[illegible] 20-day interval (McCandless & Marshall, 1957). Hartup and others (1967) reported correlations of .68 for one group of preschoolers over a five month interval. This result appears extremely high and may not truly represent most samples.

Boger and Knight (1969) in developing the Play-Situation Picture Board technique note test-retest reproductibility of ranked preferences to be significantly different from chance ($p \leq .01$) with 44% of the responses matching over a three-week period. Yet only 50% match in choice of best friend was observed in 11-15 year olds over a two-week interval! At all ages, fluctuations in friendship choices appear to persist. Girls have been noted to show fewer fluctuations than boys and emotionally disturbed children are more unstable in their choices than normal children (Davids, 1964).

Since young children's friendship choices may be very changeable it is necessary to try to delineate what purpose measurement of such a concept is to serve.

First of all, as a peer acceptance or social status dimension, such measures have provided useful information concerning behavioral correlates. Studies show that peer acceptance is positively related to sociability, outgoingness (McCandless & Marshall, 1957), expressions of nurturance, and the disposition of positive social reinforcement (Hartup, et. al., 1967). The positive correlation between social participation and popularity appears across age levels. In addition, preschool peer acceptance is highly related to compliance to routines and conformity to group expectations (Lippitt, 1941, Moore, 1964). Such characteristics can be generalized to describe socially sensitive, competent children. Although correlations do not indicate causality, such consistent relationships across studies and across ages may have important implications for teachers and counselors in identifying critical behaviors for amelioration.

At another level, sexual, ethnic and social class awareness is noted early in children's lives and provides an additional dimension to sociometric measurement. In this context, sociometric choices can indicate intra- and inter-group preferences.

The present study employs a picture-board sociometric technique to assess the degree to which children choose and are chosen by unlike peers in regard to sex and social economic class. (A list of the variables derived from this instrument are listed in Appendix A.)

Inter- and intra-group preferences may in fact be a more stable phenomenon in young children than individual peer preferences. Criswell (1939) found that although individual peer preferences for classroom seating partners in elementary children varied considerably over a six-week interval; changes across sexual and racial lines did not evidence as much fluctuation. While 59% of the choices of specific peers changed, only 19% of the choices represented changes in sexual groups and similarly 19% of the changes were across racial lines in the majority group (black). Within the minority group (white) 51% of the choices changed across racial lines. The original ethnic composition of the class was 75% black and 25% white.

Stodolsky and Jensen (1969) reported consistency between intergroup friendship choices on sociometric tests and social interaction as measured by time-sampling observations. This tendency was evidenced in all groups except lower-class children whose interaction with middle-class black children was not reflected in sociometric choices. Results of both of these studies indicate that minority group children's preferences may not be as reliable as those of the majority group.

The procedures followed in administering the Play-Situation Picture Board Sociometric in this study provide equal probability of choice for each demographic cell. A random photo assortment of three children from each cell were available for choice. Likewise, in the classroom socio-observation three children from each cell were placed in the free play setting to assess intra- and inter-group peer associations. Such procedures correct for disproportionate classroom compositions and offer a better test to assess inter-group preferences. However, the implications of limiting the field of choice to randomly selected photos disregarding existing friendships is unknown.

III. MEASURES OF SELF-CONCEPT

BROWN IDS SELF-CONCEPT REFERENT TEST

Attempts to measure preschool-aged children's feelings about self have met with cautious criticism. Brown (1966) notes the following reasons for the difficulty in measuring self-concept during the preschool years:

1. the limited ability of young children to conceptualize and verbalize feelings about themselves
2. the instability of the self-concept at a young age
3. the lack of appropriate measures

Coller (1971) presents a comprehensive description of the various self-concept measures available for young children. The Brown IDS Self-Concept Referent Test has been widely accepted since first developed in 1966. Its main criticism has been directed toward its reliance on verbal and conceptual skills that may be reflected in addition to or instead of feelings about self. (The age criterion established for this sample reflects this concern. Only children over 3 1/2 were included in the study). The stability of the measure with young children has also been questioned.

The Brown test was designed to assess the self-concept of young (four to six-year-old) children using a photographic technique that induces the child to take the role of another toward himself. The test measures the child's feelings toward himself (self-as-subject), and his perception of his mother, teacher and peers' (self-as-object) feelings toward him. Only the mother and self referent were administered in this study.

The setting for this individual test was a separate room (office, lounge) at each day care center. Test administration took approximately five-ten minutes.

A head and shoulder black and white polaroid photograph is taken of the child, with no instructions to "smile" so that a spontaneous facial expression may be obtained. After the tester ascertains that the child recognizes himself in the picture, the child is asked to respond to 14 bipolar items (e.g., Is (child's name) happy or sad?). All items are presented in an "either-or" format. After all 14 self referent items are completed, the same items are presented in the mother referent format (e.g., Does (child's name)'s mother think (child's name) is happy or sad?)

Each item is scored as positive (1), negative (0) or no response (blank) at the time of testing. The self and mother referent scores are derived as the sum of positive responses divided by the total number of scorable responses. The self score, mother score, total number of omits, and discrepancy score (sum of items with differences between responses for the self and mother referents) were used in the analyses.

In Brown's original sample of four-year-olds the test-retest reliability for self referent scores was .71 for black lower-class children and .76 for white middle-class children (Brown, 1966). The 1971 National Follow-Through Evaluation reported an internal consistency coefficient of .82 but test-retest reliability for 632 S's after a 2-3 week interval at only .55 (Shipman, 1972). An earlier evaluation of the Parents Are Teachers Too program (Boger, Kuipers, Cunningham and Andrews, 1974) using the Brown IDS Self Concept Referent Test Self and Mother referents reported internal consistency coefficients of .81 and .76 respectively based on a sample of 3 1/2 to 5 year olds in day care settings.

Summary

Four separate instruments were employed to gather the data required for this study. In the following table, instruments and the main variables derived from each instrument are listed. All measures were administered before the implementation of the programs considered treatments and after their completion.

Approximately seven months lapsed between the initiation of pre-testing and the completion of post-testing.

TABLE 3.18

Instruments and Main Dependent Variables

Dependent Variables	Instrument	Time(s) of Data Collections
Self concept, self referent	Brown IDS Self Concept Referent Test	Pre-Post
Self concept, mother referent	"	"
Heterogeneity of friendship choices	Play-Situation Picture Board Sociometric	"
Sociometric Status	"	"
Level of Social Involvement	Classroom Socio-Observations	"
Heterogeneity of Peer Associations	"	"
Peer group interaction	Observation of Socialization Behavior	"

ANALYSIS

Descriptive statistics were employed to describe the sample of children and their family background characteristics. Chi square analyses of demographic distributions were also employed to note differences across centers, treatment conditions and demographic groups.

The primary analyses were those investigating the effects of the treatment on the children in various treatment conditions. A multivariate analysis of covariance model was chosen for this purpose. Pretest data were used as the covariates in analyzing post test differences between groups. The unit of analysis was the child for the main analyses.

Secondary analyses were required to explore the relationships among dependent measures and between demographic characteristics and the dependent measures. Pearson Product Moment Correlations, Multiple Regression Analyses and Analysis of Variance were implemented for these purposes. In total, a wide variety of techniques were employed.

A basic alpha level of $p \leq .05$ was established a priori as the criterion for significance.

Various computer programs were used in the analyses. All of the multivariate analyses were implemented on the CDC 6500 using the FINN program. Other statistic and computer packages used were CISSR Act program, Hoyt reliability program, SPSS, and various individually prepared Fortran programs.

RESULTS

CHAPTER FOUR

I. INTRODUCTION TO PRIMARY ANALYSIS STRATEGY

Eight Day Care Centers with heterogeneous enrollments of mid and low SES children were initially sampled for inclusion in the study. Four of these centers were franchised centers and four were not. Because this was seen as a relevant dimension, a blocking variable was introduced to provide analytical control of this factor. This variable is referred to as "center auspices." The centers were thus randomly assigned to treatment conditions--one center of each type per treatment. The resulting pairs of centers within treatment conditions were then reviewed to detect any gross differences between centers. It was judged that the pairs of centers were generally comparable, but that some differences in center management practices and clientele did exist. The effect of these differences on the dependent variables and the ability of centers to implement intervention programs was recognized as being important considerations in interpreting the results of this project.

The appropriate unit of analysis for this design is centers. As centers were randomly assigned to treatment conditions based on center auspices, a randomized block design results with two levels of blocks and four levels of treatment. A simple Analysis of Variance technique could have been employed with this design. However such an analysis strategy would have had two shortcomings: 1) Such a design allows no test for blocks X treatment interaction as such an interaction term is assumed to be zero, and 2) so few degrees of freedom would exist with such a design that only one or two dependent variables could be tested at a time. As a result, 1) suspected differences between centers could not be tested and 2) the accumulated alpha level would either be very high as a result of so many tests or would need to be set to a very small critical value leaving little chance of ever noting significant differences. Therefore it was felt that the unit of analysis would need to be the individual.

To compensate for the fact that centers were sampled, not individuals, the results are interpreted based on the center means or the collective effects of individuals within centers. Likewise, an analysis strategy was selected that statistically controls for systematic differences between and within groups initially. Thus to investigate the effects of supplemental short term intervention programs an Analysis of Covariance model was applied. With this procedure initial differences between individuals and groups, as reflected in pre-test scores, are set to zero. Thus basic differences on these dimensions are eliminated and a means is established to compare post test scores across differing treatment conditions.

Preliminary two way analysis of covariance tests with treatment and auspices as design factors were implemented to check for auspices effects. No interactions or differences between franchised and non-franchised centers were revealed on the Brown Self Concept Referent Test and the Play-Situation Picture Board Sociometric variables. Significant Treatment x Auspices interactions on the Classroom and OSB variables however did exist, indicating center differences within treatments but no systematic auspices effects.

The design for the primary analyses is therefore a 2 x 4 x 2 [illegible] 2 way design. Two centers are nested within each of four Treatment conditions and Sex and Social Economic Status with two levels each are crossed with center nested in Treatment. The resulting design contains 32 cells and is illustrated in Figure 4.A.

		T_1		T_2		T_3		T_4	
		C_1	C_2	C_3	C_4	C_5	C_6	C_7	C_8
Low SES	M								
	F								
Mid SES	M								
	F								

Figure 4-A

DESIGN FOR DATA ANALYSES

Approximately 200 children's data were involved in the analyses, although this number varied across instruments depending on the completeness of each child's data. All children within the sampled centers that met the criteria for inclusion were tested.(The sampling procedures are described in Chapter Three). The unit of analysis in the following analyses is the individual.

The variables from each instrument were analyzed separately using the Analysis of Covariance Model. The results of these analyses follow.

ANALYSIS OF THE BROWN IDS SELF-CONCEPT REFERENT TEST

Four variables were formed from the Brown IDS Self-Concept Referent Test; Self score, Mother score, Discrepency score, and number of omits. The first two variables are the number of positive responses divided by the total number of responses. The discrepency score reflects the frequency of observing different self and mother responses to the same item. Thus this variable reflects the degree to which the child discriminates between feelings about self and perceived feelings mother may hold toward self. The number of omits variables is simply the number of items for which the child did not respond and may reflect the degree to which the child could not conceptualize the issue.

An initial Multivariate Regression Analysis to test for the degree of association between the post test scores and their respective pretest covariates resulted in an F-statistic of 5.3565, significant at $P<.0001$. The step wise regression procedure revealed two covariates contributing to the significant multivariate association. In the subsequent analysis, only the self and mother pretest scores were used as covariates. The results of the Multivariate Analysis of Covariance applied to the 2x4x2x2 way design are reported in Table 4.1.

TABLE 4.1

RESULTS OF MANCOVA ON BROWN IDS SELF CONCEPT REFERENT TEST
Covariates are pre self and pre mother scores
N=201

	F-ratio	Degrees of Freedom	Probability
TESTS FOR MAIN EFFECTS:			
Treatment	1.0949	12 & 434	.3625
Center nested in Treatment	1.2184	16 & 502	.2490
Social Economic Status(SES)	1.3834	4 & 164	.1158
Sex	4.4557	4 & 164	7682
TESTS FOR INTERACTIONS:			
Treatment X SES	.6754	12 & 434	.7756
Treatment X Sex	.7529	12 & 434	.6992
SES X Center in Treatment	1.1901	16 & 502	.2714
Sex X Center in Treatment	1.1132	16 & 502	.1351
SES X Sex	.3424	4 & 164	.8490
Treatment X SES X Sex	1.7916	12 & 429	.0473*
SES X Sex X Center in Treatment	.9879	16 & 502	.4686

A significant three way interaction between Treatment, SES, and Sex was evidenced. Further analyses were implemented to investigate the location of the significant interaction. Two sets of contrasts were established testing the interaction of two of the independent factors nested within the third. The multivariate results of these tests indicated a significant Treatment by Sex interaction within the Low SES group.

Treatment X Sex nested in SES_1	1.7987	12 & 435	.0461*
Treatment X Sex nested in SES_2	.9136	12 & 435	.5332

No one variable reached significance, although the step wise analysis indicated that omits could be eliminated from consideration. Therefore, the adjusted post self, mother and discepency scores are reported in Table 4.2.

TABLE 4.2

ADJUSTED POST TEST SCORES ON BROWN IDS SELF CONCEPT REFERENT TEST

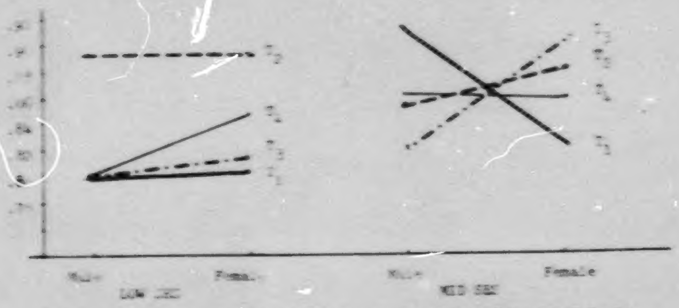
N=201

		LOW SES			MID SES		
		Self	Mother	Descrepency	Self	Mother	Discrepency
T_1	Male	.7898	.7696	.0867	.9146	.9001	.0898
	Female	.8002	.8597	.1938	.8204	.8392	.1275
T_2	Male	.8974	.8060	.1705	.8516	.8492	.1327
	Female	.8978	.8760	.0267	.8842	.8633	.0699
T_3	Male	.7895	.7817	.2485	.8251	.8133	.2083
	Female	.8147	.7037	.2187	.9019	.9061	.0618
T_4	Male	.8016	.8168	.1647	.8620	.8528	.1604
	Female	.8421	.8201	.1608	.8582	.8971	.1425

T_1 - Sociodramatic Play Program
T_2 - Parents are Teachers Too Program
T_3 - Both Programs
T_4 - Control

As illustrated in Table 4.2 and graphed in Figure 4-B, among the Low SES group, females had equal or higher self scores than males across all treatment conditions. The children in T_2, Parents are Teachers Too program, had the highest self concept scores of all other Treatment conditions. Greater differences between males

Figure 4-B
*ADJUSTED POST SELF SCORES (BROWN IDS SELF CONCEPT TEST)

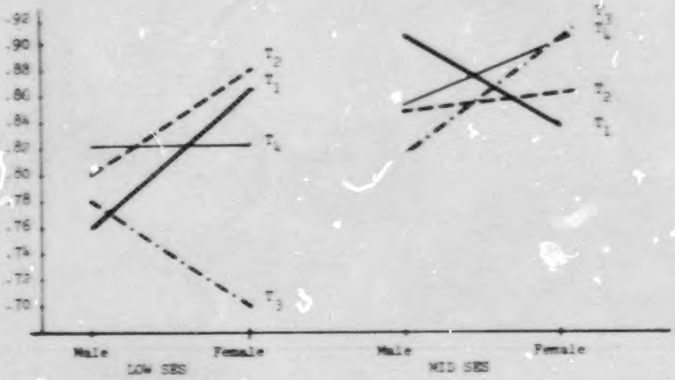


* Post test scores are adjusted in the covariance model to eliminate differences among groups on the pre-test scores.

and females were evidenced in the control condition than in the other Treatment conditions, with the least differences observed in Treatment T_2. Middle SES children of both sexes and under all treatment conditions had higher post self scores than Low SES children, except for the Low SES children in T_2. In the low SES group females scored higher than the males, however, within the Mid SES group in both the Sociodramatic play (T_1) and Control (T_4) condition males scored higher than females. In fact, Mid SES males in the sociodramatic play treatment had the highest self concept scores of all groups. Females in the Parent Treatment (T_2) and Both Programs (T_3) scored higher than the control females within the Mid SES group.

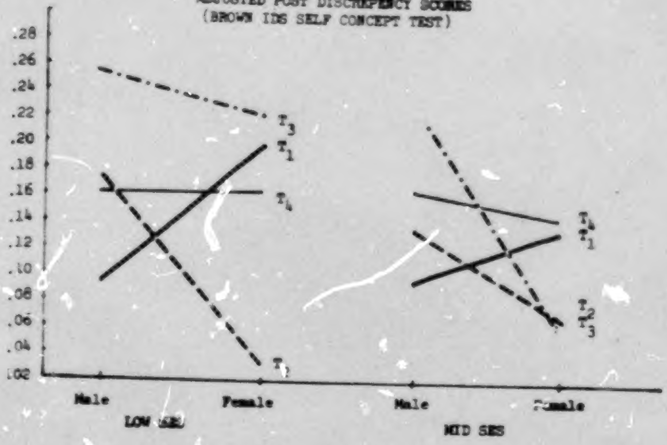
A correlation coefficient of r=.70 existed between pre-test mother and self scores, while on the post test, the magnitude of the correlation between mother and self scores was slightly less, r=.60. Although highly correlated, the pattern of the score distribution of self and mother varied. With the adjusted post mother scores, Mid SES children scored higher than Low SES children in all groups except among females in the T_1 and T_2 conditions. In these two conditions, sociodramatic play and Parents are Teachers Too, the Low SES females perceived their mother's conception of themselves as better than the MID SES females. Males did not respond similarly, although

Figure 4-C
ADJUSTED POST MOTHER SCORES (BROWN IDS SELF CONCEPT TEST)



Mid SES males in the sociodramatic play condition exhibited higher adjusted post mother scores than any other group of males. Although Low SES children in the T_3 condition exhibited low self and mother scores, this pattern was reversed with the middle SES children in this treatment condition, especially for females.

Figure 4-D
ADJUSTED POST DISCREPENCY SCORES
(BROWN IDS SELF CONCEPT TEST)



Females in the T_2(PTT) condition irregardless of SES poorly differentiated between feelings about self and perceived mother's feelings of themselves. Males however, in this treatment as well as T_3(both) had extremely differentiated feelings between one's own and one's mother's feelings toward self. Low SES children in T_3 had the most differentiated self concept scores. In general males had more differentiated scores than females, except in T_1(SDP) where female's scores exceeded male's scores.

ANALYSIS OF PLAY-SITUATION PICTURE BOARD SOCIOMETRIC

Two sets of variables from the Picture Board Sociometric were analyzed separately. In the first set, the child's choices of playmates were analyzed. The variables formed were: Diversity of Choices, Heterogeneity of SES, and Heterogeneity of Sex. The second set of variables refer to the child's status in the group, or how often he/she were chosen by other peers as playmates. These variables were: Sociometric Status, Heterogeneity of SES Status, and Heterogeneity of Sex Status. In the last two variables, the number of times the child was chosen by the opposite sex or SES peer was divided by the number of times he/she was available for choice by unlike peers.

ANALYSES OF SOCIOMETRIC CHOICES

The multivariate regression analysis testing for the degree of association between post test scores and pretest covariates was significant at the .0196 level of chance probability.

Although the Heterogeneity of Sex variable contributed the most to the multivariate association, all three covariates were used in subsequent analyses.

The results of the multivariate analysis of covariance applied to the 2 x 4 x 2 x 2 way design are reported in Table 4.3.

TABLE 4.3

RESULTS OF MANCOVA ON PLAY-SITUATION PICTURE BOARD CHOICES
Covariates are pre-Diversity, pre-Heterogeneity of SES, and pre-Heterogeneity of Sex
N=182

	F-ratio	Degrees of freedom	Probability
TESTS FOR MAIN EFFECTS:			
Treatment	.7169	9 & 353	.6935
Center nested in Treatment	1.1753	12 & 383	.2988
Social Economic Status(SES)	5.8954	3 & 145	.0008*
Sex	2.7209	3 & 145	.0467*
TESTS FOR INTERACTIONS:			
Treatment X SES	.8243	9 & 353	.5942
Treatment X Sex	.5447	9 & 353	.8415
SES X Center in Treatment	.7678	12 & 383	.6838
Sex X Center in Treatment	.9064	12 & 383	.5406
SES X Sex	.3698	3 & 145	.7750
Treatment X SES X Sex	.8531	9 & 353	.5677
SES X Sex X Center in Treatment	.5452	12 & 383	.1057

The results of the multivariate analysis of covariance indicates no interactions nor treatment effects on the sociometric choice variables, but significant Sex and SES Main Effects(see Tables 4.4 and 4.5). The variables contributing to both of these multivariate effects was Heterogeneity of SES. This variable, Heterogeneity of SES, denotes the degree to which children choose playmates of the opposite social class. The adjusted post Heterogeneity of SES scores are reported in Table 4.6.

TABLE 4.4

VARIABLES CONTRIBUTING TO SIGNIFICANT SES MAIN EFFECTS ON THE PICTURE BOARD SOCIOMETRIC CHOICES

Multivariate F-ratio 5.8954 df= 3 & 145 P < .0008

Variables	Univariate F-ratio	Probability less than
Diversity	.0823	.7747
Heterogeneity of SES	17.3068	.0001*
Heterogeneity of Sex	1.3513	.2470

Degrees of freedom for hypothesis - 1
Degrees of freedom for error - 147

TABLE 4.5

VARIABLES CONTRIBUTING TO SIGNIFICANT SEX MAIN EFFECTS ON THE PICTURE BOARD SOCIOMETRIC CHOICES

Multivariate F-ratio 2.7209 df= 3 & 145 P < .0467

Variables	Univariate F-ratio	Probability less than
Diversity	3.2349	.0742
Heterogeneity of SES	5.6068	.0192*
Heterogeneity of Sex	.4083	.5239

Degrees of freedom for hypothesis - 1
Degrees of freedom for error - 147

TABLE 4.6

ADJUSTED POST HETEROGENEITY OF SES SCORES ON PLAY-SITUATION PICTURE BOARD SOCIOMETRIC CHOICES

SOCIAL CLASS DIFFERENCES		SEX DIFFERENCES	
Low SES	1.217	Males	1.133
Mid SES	.6735	Females	.7416

These results are consistent with other research findings. Low SES children more often choose Mid SES peers as playmates than do Mid SES children choose Low SES peers. Males are more likely to choose peers from the opposite SES group than are females. In other words, males are more heterogeneous in regard to social class than females.

ANALYSIS OF SOCIOMETRIC STATUS

The multivariate regression analysis testing for the degree of association between pretest covariates and post-test status scores was significant at the .0642 level of probability.

Pre Status was the only covariate contributing to the over all association, although all three covariates were retained in the subsequent analyses. The results of the Multivariate Analysis of Covariance applied to the 2 x 4 x 2 x 2 way design are reported in Table 4.7.

TABLE 4.7

RESULTS OF MANCOVA ON PLAY-SITUATION PICTURE BOARD SOCIOMETRIC STATUS
Covariates are pre-Status, pre-Heterogeneity of Sex Status, pre-Heterogeneity of SES Status
N=183

	F-ratio	Degrees of freedom	Probability
TESTS FOR MAIN EFFECTS:			
Treatment	.4899	9 & 353	.8813
Center nested in Treatment	2.1112	12 & 383	.0156*
Social Economic Status(SES)	.7276	3 & 145	.5371
Sex	.5107	3 & 145	.6755
TESTS FOR INTERACTIONS:			
Treatment X SES	.5078	9 & 353	.8689
Treatment X Sex	.7555	9 & 353	.6578
SES X Center in Treatment	1.6657	12 & 383	.0723
Sex X Center in Treatment	.4661	12 & 383	.9338
SES X Sex	.4845	3 & 145	.6936
Treatment X SES X Sex	.5975	9 & 353	.7992
SES X Sex X Center in Treatment	.9751	12 & 383	.4721

An SES x Center nested in Treatment interaction approached significance but the only significant effects were Center nested in Treatment effects. The variables contributing to the SES x Center interaction are reported in Table 4.8.

TABLE 4.8

VARIABLES CONTRIBUTING TO SES X CENTER NESTED IN TREATMENT INTERACTION
PICTURE BOARD SOCIOMETRIC STATUS

Multivariate F-ratio 1.6637 df= 12 & 383 P < .0723

Variables	Univariate F-ratio	Probability less than
Status	1.2615	.2879
Heterogeneity of SES status	2.0926	.0847
Heterogeneity of Sex status	2.9540	.0221*

Degrees of freedom for hypothesis - 4
Degrees of freedom for error - 147

Heterogeneity of Sex Status appears to have contributed the most to the multivariate interaction. The adjust post heterogeneity of sex status scores are reported in Table 4.11.

As significant center nested in treatment differences were evident, a multivariate test with one degree of freedom post hoc procedure was implemented to determine within which treatment conditions significant center differences existed. These multivariate results are reported in Table 4.9.

TABLE 4.9

ONE DEGREE OF FREEDOM MULTIVARIATE CENTER NESTED WITHIN TREATMENT TESTS

Contrast	Multivariate F-ratio	Degrees of Freedom	Probability
Center nested in Treatment$_1$	1.0024	3 & 145	.3937
Center nested in Treatment$_2$	2.4498	3 & 145	.0660
Center nested in Treatment$_3$	.7503	3 & 145	.5239
Center nested in Treatment$_4$	4.3256	3 & 145	.0060*

The variables contributing to the multivariate differences in T_4 are reported in Table 4.10.

TABLE 4.10

VARIABLES CONTRIBUTING TO CENTER NESTED IN TREATMENT 4 DIFFERENCES

Multivariate F-ratio 4.32 df= 3 & 145 $p < .006$

Variables	Univariate F-ratio	Probability less than
Status	2.3594	.1271
Heterogeneity of SES	4.2600	.0406*
Heterogeneity of Sex	4.1237	.0441*

Degrees of freedom for hypothesis - 1
Degrees of freedom for error - 147

The only variables contributing to center differences and/or SES by center nested in Treatment differences are heterogeneity of SES Status and Heterogeneity of Sex Status. These two sets of adjusted post scores are reported in Tables 4.11 and 4.12.

TABLE 4.11

ADJUSTED POST HETEROGENEITY OF SEX SOCIOMETRIC STATUS SCORES

	LOW SES		MID SES		COMBINED SES	
	C_1	C_2	C_1	C_2	C_1	C_2
Treatment$_1$	.0782	.0660	.0649	.0883	.0719	.0766
Treatment$_2$	.3419	.1811	.0160	.1600	.1502	.1700
Treatment$_3$	.1011	.3714	.1748	.1689	.1488	.2658
Treatment$_4$	.2565	.0906	.1013	.1586	.1993	.1246

As can be noted in Table 4.11, Treatment T_1 (Classroom programs) children were less heterogeneous in regard to being chosen by opposite sex peers than any other group. Children in this treatment condition were more often chosen as playmates by "like" sex peers. Among low SES children, one center from each of the T_2 and T_3 conditions were the most heterogeneous in regard to being chosen by the opposite sex peer.

TABLE 4.12

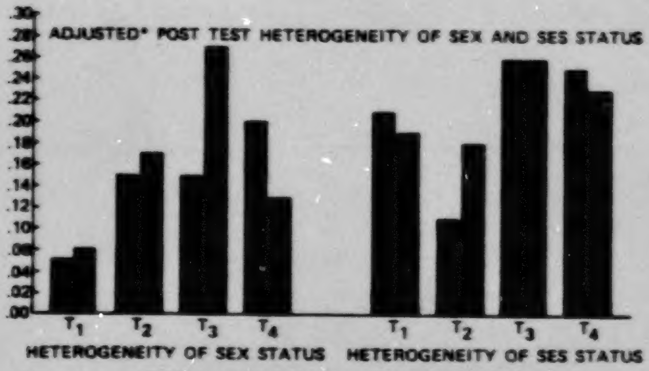
ADJUSTED POST HETEROGENEITY OF SES SOCIOMETRIC STATUS SCORES

	LOW SES		MID SES		COMBINED SES	
	C_1	C_2	C_1	C_2	C_1	C_2
Treatment_1	.1616	.1444	.2740	.3304	.2149	.1854
Treatment_2	.1275	.1457	.0979	.2166	.1101	.1831
Treatment_3	.1284	.3401	.3285	.1817	.2579	.2575
Treatment_4	.2639	.2357	.2284	.2255	.2508	.2306

Low and Middle SES children in at least one center in T_3 (both) and Mid SES children in T_1 (Classroom programs) were extremely heterogeneous in regard to being chosen by unlike SES peers. On the average, however, the individual treatment centers were less heterogeneous in SES status than the centers in T_3 (both)

Treatment condition. More diversity between centers and among SES groups, i.e. individual differences in groups were observed in the treatment conditions than in the control centers.

FIGURE 4-E



CENTER NESTED IN TREATMENT DIFFERENCES
($P < .015$)

*post test scores are adjusted to eliminate pre test differences

Figure 4-E illustrates the Center nested in Treatment effects on both Heterogeneity of Sex Status and Heterogeneity of SES Status. In general, children are more heterogeneous in regard to SES than to Sex. Children in T_1(Classroom programs) were least heterogeneous in regard to sex status. Children in centers in T_3(both programs) and T_4(Control) were most heterogeneous in regard to both sex and SES Status.

ANALYSIS OF CLASSROOM SOCIO-OBSERVATIONS

Each child whose data are included in the analyses of the classroom data had a minimum of one set of pre and post observations and a maximum of three sets pre and post. Within each set, six different observations were taken. The variables were therefore computed over 6 to 18 observations per child.

Eight variables were formed from the sets of classroom observations. Involvement is the mean level of social behavior over all observations. Peer Proximity and Peer Association are variables denoting the average number of children with whom the subject is playing over all observations. The subject must be playing at a level 5 or 6 of social behavior to be considered in peer association. Adult dependency refers to the proportion of observations in which the subject is interacting with an adult in the classroom. The two consistency variables refer to the length of interaction with the same peer over three consecutive intervals. And the two heterogeneity variables are the log of the proportion of observations in which the child is in association with an unlike peer as compared to the proportion of observations in association with a like peer.

With these latter variables and many of the variables from the Observation of Socialization Behavior Instrument, the log of the ratio of one proportion to another proportion is the actual variable used in the analysis. This procedure is implemented to help stabilize proportional data for this multivariate parametric test. When discussing the actual magnitude of the differences between groups, however, the adjusted post scores are formed on the original ratio of the two proportions. This was done since the log metric is often unfamiliar to many readers.

The multiple regression analysis testing for the degree of association between post test scores and pre test covariates was not significant, with a probability level of .1574.

Although only one variable seemed to be significantly related to the post test scores, all of the pre test scores were included as covariates as there were ample degrees of freedom and a more precise test would result.

The results of the multivariate analysis of covariance applied to the 2 x 4 x 2 x 2 way design are reported in Table 4.13.

TABLE 4.13

RESULTS OF MANCOVA ON CLASSROOM SOCIO-OBSERVATIONS
Covariates are all pre-test scores of the classroom variables
N=186

	F-ratio	Degrees of freedom	Probability
TESTS FOR MAIN EFFECTS:			
Treatment	2.5032	24 & 404	.0002*
Center nested in Treatment	4.2880	32 & 514	.0001*
Social Economic Status(SES)	1.8751	8 & 139	.0686
Sex	.9561	8 & 139	.4730
TESTS FOR INTERACTIONS:			
Treatment X SES	.6055	24 & 404	.9303
Treatment X Sex	1.2281	24 & 404	.2122
SES X Center in Treatment	.9405	32 & 514	.5633
Sex X Center in Treatment	.9912	32 & 514	.4833
SES X Sex	.8413	8 & 139	.5680
Treatment X SES X Sex	.7751	24 & 404	.7690
SES X Sex X Center in Treatment	.5500	32 & 514	.9798

No significant interactions were evidenced, therefore permitting a clear test of main effects. Both significant treatment and center nested in treatment main effects were observed. The variables contributing to these significant effects are reported in Table 4.14 and 4.15.

TABLE 4.14
VARIABLES CONTRIBUTING TO SIGNIFICANT TREATMENT
MAIN EFFECTS ON CLASSROOM SOCIO-OBSERVATION VARIABLES

Multivariate F-ratio 2.5032 df= 24 & 404 P<.0002

Variables	Univariate F-ratio	Probability less than
Involvement	1.2219	.3040
Peer Proximity	2.6605	.0504*
Adult Dependency	3.6312	.0145*
Peer Association	2.8627	.0389*
Consistency of Prox.	.6905	.5593
Consistency of Assoc.	.3033	.8320
Heterogeneity of sex	1.5544	.2031
Heterogeneity of SES	.6052	.6127

Degrees of freedom for hypothesis - 3
Degrees of freedom for error - 146

TABLE 4.15
VARIABLES CONTRIBUTING TO SIGNIFICANT CENTER
NESTED IN TREATMENT DIFFERENCES ON CLASSROOM SOCIO-OBSERVATION VARIABLES

Multivariate F-ratio 4.3880 df= 32 & 514 P<.0001

Variables	Univariate F-ratio	Probability less than
Involvement	1.2473	.2936
Peer Proximity	16.3674	.0001*
Adult Dependency	1.1724	.3255
Peer Association	6.4912	.0001*
Consistency of Prox.	3.8111	.0057*
Consistency of Assoc.	.3688	.8306
Heterogeneity of Sex	2.1099	.0825
Heterogeneity of SES	.6732	.6116

Degrees of freedom for hypothesis - 4
Degrees of freedom for error - 146

The same three variables (Peer Proximity, Adult Dependency, and Peer Association), contributing to significant Treatment effects also contribute to significant Center nested in Treatment differences. Therefore the adjusted post test scores on these three variables are reported by center and treatment (see tables 4.16 - 4.18).

TABLE 4.16

Adjusted Post Test Peer Proximity Means

	Center 1	Center 2	Treatment Grand Mean
T_1	2.544	2.943	2.775
T_2	2.254	2.625	2.472
T_3	3.154	3.230	3.195
T_4	2.224	4.692	3.016

Post hoc analyses suggest that significant Center differences exist in Treatment condition T_4 only. As these center means represent both the lowest and the highest means of all other centers it is difficult to determine the appropriateness of this composite Treatment mean. Significant differences, however, exist in all three treatment conditions compared to the control condition. The T_3 condition (Both programs) had the most gregarious children as represented by the highest average number of children in proximity over all observations.

T_1 (classroom program) children and T_2 (parent program) children had the lowest peer proximity scores. In other words, the centers implementing Both programs had fewer socially isolated children during the classroom observations than the centers implementing the individual programs only and the control centers. Children in centers offering Both classroom and parent programs exhibited the least isolated behavior or played near the largest average number of peers.

TABLE 4.17

Adjusted Post Test Adult Dependency Means

	Center 1	Center 2	Treatment Group Mean
T_1	.0297	.0442	[illegible]
T_2	.0041	.00155	[illegible]
T_3	.0292	.0436	.0364
T_4	.0994	.0391	[illegible]

As with the prior variable, post hoc analyses of the adult dependency variable suggest that significant center differences exist within T_4 only. Although these center means are not the most extreme in the table, center one within T_4 does have the highest adult dependency score. Center two within T_4 exhibits a moderate amount of adult dependency. The overall Treatment mean for T_4 is the highest of all other treatments indicating that children in the control centers were the most dependent of all other children. Children in centers implementing T_2 (Parent programs) exhibited the least adult dependency in the classroom, with children in centers implementing classroom and both programs exhibiting a little more adult dependency. It should be noted that all adults were asked not to initiate interaction with children during the classroom observations unless the safety or interests of the children were at stake. Therefore, teacher-child contact reflected in this variable must have been initiated by the children.

TABLE 4.18

Adjusted Post Test Peer Association Means

	Center 1	Center 2	Treatment Grand Mean
T_1	.7417	1.322	1.025
T_2	.4380	.7433	.6176
T_3	.6163	.6644	.6422
T_4	.6478	1.568	.9430

Post hoc analyses of the peer association variable suggest that significant center differences exist in both T_1 and T_4 treatment conditions. As can be seen from Table 4.18, the discrepancy between centers in T_4 is much greater than in T_1. Both means within T_1 are relatively large compared to the other center means, while the means within T_4 are moderately low and extremely high. One can note that the average number of children in associative or cooperative play is highest under the T_1 condition, centers implementing supplemental classroom programs, and lowest in the T_2 conditions, centers implementing supplemental parent programs. The contrast of the differences between T_3 and T_4 is significant.

Although the Sex Main Effect on the classroom variables at $P < .0686$ cannot be considered significant under the criterion of $P < .05$, the variables contributing to this effect were investigated. Heterogeneity of SES ($P < .0072$) and Adult dependency ($P < .0519$) were contributing to the sex differences. Males ($\bar{X}=1.900$) were more heterogeneous in regard to interacting with children from the opposite social class than were females ($\bar{X}=1.178$). Females ($\bar{X}=.0512$) exhibited more adult dependency than males ($\bar{X}=.0277$).

ANALYSES OF THE OBSERVATION OF SOCIALIZATION BEHAVIOR(OSB) INSTRUMENT

The variables derived from the OSB were divided into six groups of variables for the multivariate analysis of covariance. These groups are:

1. Initiations and Responses
2. Verbal
3. Peer Interaction
4. Heterogeneity of Interaction
5. Impact
6. Affect

In each case, all of the pre-test scores were used as covariates for the testing of interactions or group differences on the post-test scores.

The variables formed from the rating scales in the OSB are in the form of mean ratings or in some cases, the difference between two mean ratings. The majority of variables, however, were derived from the time sampling of discrete behavioral categories. Various levels of complexity can be observed among these variables. At the simplest level, a variable may refer to the proportion of time a specific behavior occurs relative to total time, which is constant for all subjects. At the next level, ratios are formed of the proportion of time a specific behavior occurs relative to the proportion of time a different behavior occurs. At the most complex level combinations of variables are included so that the ratio may refer to the proportion of time a specific behavior occurs along with another behavior relative to when it does not occur in combination.

In all cases, whenever proportional data is included in the analysis, the actual variable is the logarithm of the proprotion or ratio. The log is a more stable variable for this type of analysis. The adjusted post test scores are reported in the metric of the original proportion or ratio for ease of interpretation.

A list of all derived OSB variables and their conceptual definitions is provided in Appendix A. These variables were formed based on their specific relevance to this study.

In the following sections the results are reported separately for each group of variables.

Initiations and Responses

Seven variables were grouped in this category: three describing the initiation behavior of subjects, three describing the response behavior, and one variable representing the overall activity level, a combination of mean level of initiations and mean level of responses. The Multiple Regression Analysis to test for the degree of association between post-test scores and their respective pre-test covariates resulted in an F statistic of 1.8747 with $P < .0005$.

The initiation and activity variables contributed more as covariates than the response variables. All pre-test scores were included as covariates in the subsequent analysis. The results of the Multivariate Analysis of Covariance applied to the 2 x 4 x 2 x 2 way design are reported in Table 4.19.

TABLE 4.19

RESULTS OF MANCOVA ON INITIATION AND RESPONSE VARIABLES OF THE OSB

Covariates are all pre-test scores in the Initiation & Response group of variables

N=168

	F-ratio	Degrees of freedom	Probability
TESTS FOR MAIN EFFECTS:			
Treatment	3.8109	21 & 354	.0001*
Center nested in Treatment	3.9927	28 & 445	.0001*
Social Economic Status(SES)	.5942	7 & 123	.7597
Sex	1.4942	7 & 123	.1755
TESTS FOR INTERACTIONS:			
Treatment X SES	.8349	21 & 354	.6762
Treatment X Sex	.7308	21 & 354	.8012
SES X Center in Treatment	.6916	28 & 445	.8819
Sex X Center in Treatment	.8634	28 & 445	.6698
SES X Sex	1.5655	7 & 123	.1519
Treatment X SES X Sex	.4470	21 & 354	.9846
SES X Sex X Center in Treatment	.8093	28 & 445	.7459

No significant interactions were observed. The significant Treatment effect will be discussed relative to significant Center within Treatment differences. The variables contributing to the significant Treatment and Center differences are reported in Tables 4.20 and 4.21.

TABLE 4.20

VARIABLES CONTRIBUTING TO SIGNIFICANT TREATMENT MAIN EFFECTS ON INITIATION AND RESPONSE VARIABLES OF THE OSB

Multivariate F-ratio 3.8109   df= 21 & 354 $P < .0001$

Variables	Univariate F-ratio	Probability less than
Activity level	.1949	.8998
Facilitative of Responses	2.2094	.0902
Responsive Initiations	14.6945	.0001*
Initiative	8.1073	.0001*
Acceptiveness of Responses	3.7166	.0133*
Responsivity	5.3557	.0017*
Duration	2.8272	.0412*

Degrees of freedom for hypothesis = 3

Degrees of freedom for error = 129

TABLE 4.21

VARIABLES CONTRIBUTING TO SIGNIFICANT CENTER NESTED IN TREATMENT DIFFERENCES ON INITIATION AND RESPONSE VARIABLES OF THE OSB

Multivariate F-ratio 3.9927   df= 28 & 445 $P < .0001$

Variables	Univariate F-ratio	Probability less than
Activity level	1.3831	.2434
Facilitative Responses	7.1714	.0001*
Responsive Initiations	15.2028	.0001*
Initiative	5.6750	.0004*
Acceptiveness of Responses	5.7082	.0003*
Responsivity	13.1707	.0001*
Duration	12.4191	.0001*

Degrees of freedom for hypothesis = 4
Degrees of freedom for error = 129

The same variables contributing to the significant Treatment Effects also contribute to the significant Center nested in Treatment differences. The following tables of adjusted post means will therefore be discussed relative to both center and treatment differences.

TABLE 4.22

Adjusted Post Test Responsive Initiation Means

	Center 1	Center 2	Treatment Grand Mean
T_1	3.459	3.367	3.420
T_2	3.163	.4549	1.747
T_3	1.811	.8580	1.223
T_4	.3741	4.156	2.007

Post hoc Scheffe contrasts suggest that the significant center differences reside in T_2 and T_4 Treatment conditions. The centers in both of these treatment conditions exhibit extreme scores relative to the scores in other centers, making their contributions to Treatment Effects difficult to assess. It can be clearly noted that children in T_1 (classroom programs) initiated most often following an acceptance of another child's interaction. Children in T_3 (both programs) exhibited the lowest scores for responsive initiations. These differences relative to T_4 (control) are significant, although T_4 scores may not be representative in light of the large center differences.

TABLE 4.23

Adjusted Post Test Initiative Means

	Center 1	Center 2	Treatment Grand Mean
T_1	1.012	.5978	.8360
T_2	.0098	1.399	.7361
T_3	.7915	1.161	1.019
T_4	.7789	1.187	.9549

Post hoc analysis suggests center differences within T_2 and T_4 on the variable Initiative. This time the more discrepent and the most extreme scores are noted within T_2(parent programs). Both centers within T_4 exhibit relatively high adjusted post means. Comparing T_1, T_3, and T_4; the highest scores, representing children producing a large proportion of initiations relative to responsive or ongoing behavior, are evidenced in T_3(both programs). Both T_4(Control) and T_1(classroom programs) conditions evidenced moderate Initiative scores.

TABLE 4.24

Adjusted Post Test Acceptiveness of Response Means

	Center 1	Center 2	Treatment Grand Mean
T_1	5.485	6.139	5.762
T_2	7.081	2.617	4.747
T_3	2.261	3.153	2.811
T_4	2.071	5.663	3.662

Again post hoc analysis indicates significant center differences within T_2 and T_4 conditions. Neither pair of centers, however, contain the most extreme mean scores although the centers within T_2 are more discrepant than any other pair of centers. With this variable, denoting the acceptiveness relative to rejectiveness of children's responses to other children, the children in T_1(classroom programs) exhibited the highest acceptiveness. Children receiving the T_3(both programs) condition were least accepting but still accepted more than rejected. The T_2 and T_4 conditions evidenced moderate acceptiveness of response scores.

TABLE 4.25

Adjusted Post Test Responsivity Means

	Center 1	Center 2	Treatment Grand Mean
T_1	.9452	.7542	.8642
T_2	.5721	.2922	.4258
T_3	.5072	.2296	.3359
T_4	.1302	1.092	.5456

Post hoc analysis of the Responsivity scores suggest significant center differences between centers within T_2 and T_4 treatment conditions. The centers within T_4(control) exhibit the most extreme scores relative to other centers. Children receiving the T_1(classroom programs) condition had the highest responsivity scores followed by children in the T_4(control) and T_2(parent program) conditions. The T_3(both programs) children had the lowest responsivity scores.

TABLE 4.26

Adjusted Post Test Duration Means

	Center 1	Center 2	Treatment Grand Mean
T_1	6.845	8.460	7.530
T_2	4.450	7.879	6.242
T_3	7.756	9.533	8.852
T_4	16.57	1.207	9.936

Significant center differences were only observed in the T_4(control) treatment condition on the Duration variable.

This variable, duration, reflects the non-interactive aspects of behavior. As it is negatively correlated with social behavior(r=-.2027), autonomy(r=-.2035), and activity level (r=.2956); it can be viewed as representing passive, non-social forms of behavior rather than involved play. With this interpretation in mind, it can be seen that all treatment groups had lower duration scores than the control group, or exhibited more interactive play. The center means within the control group, however, are extremely discrepant making it difficult to accept the composite treatment mean as being very representative.

It can be noted that the children receiving T_3(both programs) evidenced the next highest duration scores. T_1(classroom programs) and T_2(parent programs) children exhibited the lowest duration scores, playing interactively significantly more than the controls.

Verbal

Five variables were grouped within the verbal category of variables. Verbalizations denotes the relative amount of verbal interaction over all intervals compared to the nonverbal interaction, three variables represent various categories of verbalizations, and Fantasy denotes the amount of fantasy versus nonfantasy verbalizations. All of these variables are ratios of two proportions. The Multiple Regression Analysis was significant with an F-ratio of 2.0262 at $P < .0027$.

Only two of these variables were significant covariates, although all five were used in the subsequent analysis. The results of the Multivariate Analysis of Covariance applied to the 2 x 4 x 2 x 2 way design are reported in Table 4.27.

TABLE 4.27

RESULTS OF MANCOVA ON VERBAL VARIABLES OF THE OSB

Covariates are all pre-test scores in the Verbal group of variables

N=168

	F-ratio	Degrees of freedom	Probability
TESTS FOR MAIN EFFECTS:			
Treatment	2.7301	15 & 351	.0006*
Center nested in Treatment	1.9222	20 & 422	.0001*
Social Economic Status(SES)	1.4354	5 & 127	.2160
Sex	2.3690	5 & 127	.0431
TESTS FOR INTERACTIONS:			
Treatment X SES	1.2010	15 & 351	.2685
Treatment X Sex	.6475	15 & 351	.8348
SES X Center in Treatment	.8266	20 & 422	.6815
Sex X Center in Treatment	.7103	20 & 422	.8167
SES X Sex	.9866	5 & 127	.4287
Treatment X SES X Sex	.7549	15 & 351	.7275
SES X Sex X Center in Treatment	.7817	20 & 422	.7365

No significant interactions were evidenced on the verbal variables allowing a clear assessment of main effects. Significant Treatment, Center nested in Treatment and Sex Main Effects exist. The variables contributing to these significant main effects follow in Tables 4.28 - 4.30.

TABLE 4.28

VARIABLES CONTRIBUTING TO SIGNIFICANT TREATMENT MAIN EFFECTS ON VERBAL VARIABLES OF THE OSB

Multivariate F-ratio 2.7301 df= 15 & 351 P<.0006*

Variables	Univariate F-ratio	Probability less than
Verbalizations	7.9765	.0001*
Task Verbal	2.1157	.1014
Verbal	.9576	.4150
Verbal Supportiveness	.7931	.4999
Fantasy	3.1211	.0283*

Degrees of freedom for hypothesis - 3
Degrees of freedom for error - 131

TABLE 4.29

VARIABLES CONTRIBUTING TO CENTER IN
TREATMENT MAIN EFFECTS ON VERBAL VARIABLES
OF OSB INSTRUMENT

Multivariate F-ratio 1.9222 df= 20 & 422 P <.0100

Variables	Univariate F-ratio	Probability less than
Verbalizations	4.5659	.0018*
Task Verbal	2.2162	.0707
Verbal Dominance	1.3125	.2687
Verbal Supportiveness	1.3870	.2420
Fantasy	2.0115	.0964

Degrees of freedom for hypothesis - 4
Degrees of freedom for error - 131

TABLE 4.30

VARIABLES CONTRIBUTING TO SEX MAIN EFFECT
ON VERBAL VARIABLES OF OSB INSTRUMENT

Multivariate F-ratio 2.3690 df= 5 & 127 P < .0431

Variables	Univariate F-ratio	Probability less than
Verbalizations	.0058	.9395
Task Verbal	.0002	.9881
Verbal Dominance	1.1472	.2861
Verbal Supportiveness	2.6860	.1037
Fantasy	7.1761	.0084*

Degrees of freedom for hypothesis - 1
Degrees of freedom for error - 131

Two variables contributed to the significant Treatment Effects; Verbalizations and Fantasy. Verbalizations also contributed to significant center differences. The adjusted post-test means of these two variables are reported in Tables 4.31 and 4.32 respectively.

TABLE 4.31

Adjusted Post Test Verbalization Means

	Center 1	Center 2	Treatment Grand Mean
T_1	.9361	.4916	.7475
T_2	.0771	2.557	1.373
T_3	2.858	3.185	3.060
T_4	1.367	.8258	1.134

Post hoc Scheffe analysis suggests significant center differences within T_2 only. As can be noted in the above table, center one within T_2 exhibits the lowest verbalization score of all centers while center two's mean score is moderately high. In spite of these discrepancies, however, the treatment mean for T_2 appears relatively representative compared to the magnitude of the means for other centers and treatment conditions. On the verbalization variable, children receiving T_3(both programs) exhibited the highest proportion of verbal versus nonverbal intervals. Children in T_1(classroom programs) were the least verbal with children in T_2(parent programs) and T_4(control) conditions evidencing moderate amounts of verbal interaction.

TABLE 4.32

Adjusted Post Test Fantasy Means

	Center 1	Center 2	Treatment Grand Mean
T_1	.3813	.5632	.4585
T_2	.6816	.5877	.6325
T_3	.4568	.3671	.4015
T_4	.9281	.6860	.8236

As there were no significant center differences evidenced on this variable, a clear Treatment Main Effect can be discussed for Fantasy. Although the magnitude of the Treatment mean scores differ very little, the means suggest that children in all Treatment conditions exhibited less Fantasy verbalizations than the control children. The only significant Scheffe contrast, however, lies between T_3(both programs) and T_4(control). Therefore children receiving T_3 fantasized less than children in T_4. Children in T_1(classroom programs) and T_2(parent programs) conditions had moderate levels of fantasy verbalizations.

The variable contributing to the significant Sex Main Effect was also Fantasy($P < .0084$). The adjusted post test mean Fantasy score for males was .7112 while for females it was .4651. Males exhibited more fantasy verbalizations than females in the small group, play setting.

Peer Interaction

Eleven variables were combined in this category concerned with the quality of children's interactions. One variable, Gregariousness denotes the average number of children to whom the child is in interaction over all intervals. Social Behavior, Autonomy, and Social Leadership are mean ratings of the qualtiy of the child's behavior. Two other variables; Mutual Goal Directedness and Socially Unaware are frequencies of specific behaviors derived from the social behavior rating scale. The Peer Interaction and Facilitative of Interaction variables represent the relative amount of time the child is either in interaction with peers or continues interaction initiated by a peer. Aggression and Withdrawal are complex variables combining behaviors across categories. And lastly, the Physical Contact variable denotes the frequency of bodily contact when in peer interaction.

The Multiple Regression Analysis revealed a significant ($P < .0293$) association between all eleven pre-test covariates and the post-test scores. All eleven covariates were included in the subsequent analysis. The results of the Multivariate Analysis of Covariance applied to the 2 x 4 x 2 x 2 way design are reported in Table 4.33.

TABLE 4.33

RESULTS OF MANCOVA ON PEER INTERACTION VARIABLES OF THE OSB

Covariates are all pre-test Peer Interaction variables
N=168

	F-ratio	Degrees of freedom	Probability
TESTS FOR MAIN EFFECTS:			
Treatment	3.2294	33 & 340	.0001*
Center nested in Treatment	3.1359	44 & 442	.0001*
Social Economic Status(SES)	1.0741	11 & 115	.3083
Sex	1.5117	11 & 115	.1365
TESTS FOR INTERACTIONS:			
Treatment X SES	.4523	33 & 340	.9965
Treatment X Sex	.6771	33 & 340	.9131
SES X Center in Treatment	.7267	44 & 442	.9039
Sex X Center in Treatment	.8406	44 & 442	.7569
SES X Sex	.3176	11 & 115	.9808
Treatment X SES X Sex	.5637	33 & 340	.9763
SES X Sex X Center in Treatment	.6051	44 & 442	.9791

TABLE 4.34

VARIABLES CONTRIBUTING TO SIGNIFICANT TREATMENT MAIN EFFECTS ON THE PEER INTERACTION VARIABLES OF THE OSB

Multivariate F-ratio 3.2294 df= 33 & 340 P<.0001

Variables	Univariate F-ratio	Probability less than
Gregariousness	5.2271	.0020*
Social Behavior	.6599	.5783
Autonomy	3.3292	.0219*
Social Leadership	1.3246	.2694
Peer Interaction	1.9419	.1263
Physical Contact	.0724	.9747
Mutual Goal Directedness	1.9193	.1299
Socially Unaware	5.1855	.0021*
Aggression	.7403	.5300
Withdrawal	.5858	.6254
Facilitative of Interaction	5.1227	.0023*

Degrees of freedom for Hypothesis - 3
Degrees of freedom for error - 125

TABLE 4.35

VARIABLES CONTRIBUTING TO SIGNIFICANT CENTER NEXTED IN TREATMENT DIFFERENCES ON THE PEER INTERACTION VARIABLES OF THE OSB

Multivariate F-ratio 3.1359 df= 44 & 442 P < .0001

Variables	Univariate F-ratio	Probability less than
Gregariousness	4.7948	.0013*
Social Behavior	.7997	.5276
Autonomy	6.6073	.0001*
Social Leadership	.3911	.8147
Peer Interaction	3.0596	.0192*
Physical Contact	2.4558	.0492*
Mutual Goal Directedness	1.6861	.1574
Socially Unaware	8.7709	.0001*
Aggression	1.1139	.3530
Withdrawal	2.7314	.0321*
Facilitative of Interaction	2.8968	.0248*

Degrees of freedom for Hypothesis - 4
Degrees of freedom for error - 125

All four of the variables contributing to the significant Treatment Main Effect also contribute to significant Center nested in Treatment differences. Therefore, each of these four variables will be discussed relative to center and treatment effects. The adjusted post-test mean scores for these four variables; Gregariousness, Autonomy, Socially Unaware, and Facilitative of Interaction, are reported in Tables 4.36 through 4.39.

TABLE 4.36

Adjusted Post Test Gregariousness Means

	Center 1	Center 2	Treatment Grand Mean
T_1	1.837	1.496	1.692
T_2	1.367	1.581	1.479
T_3	1.739	1.543	1.618
T_4	1.508	1.285	1.412

Although post hoc Scheffe analysis indicate significant center differences with T_2, T_3, and T_4; the actual magnitude of these differences does not appear to be extremely discrepant. Therefore, the treatment means will be discussed relative to Treatment Main Effects. As can be observed in Table 4.36 the means of children receiving T_1(classroom programs) were the highest scores. Both the T_1 and T_3 means were significantly different from the Control condition. The children in T_1 and T_3 played with the largest numbers of children over all intervals.

TABLE 4.37

Adjusted Post Test Autonomy Means

	Center 1	Center 2	Treatment Grand Mean
T_1	3.542	3.575	3.556
T_2	3.873	3.400	3.625
T_3	3.245	3.470	3.384
T_4	3.418	3.656	3.521

Post hoc analysis indicate center differences only within the T_2 condition. These center means are not the most extreme, although Center one in T_2 evidenced the highest mean of all centers. The T_2(parent programs) condition contains the highest Treatment mean of all treatments. Children in T_1(classroom programs) evidenced the next highest Autonomy scores.

TABLE 4.38

Adjusted Post Test Socially Unaware Means

	Center 1	Center 2	Treatment Grand Mean
T_1	.0982	.2024	.1429
T_2	.0389	.0574	.0486
T_3	.0835	.0249	.0474
T_4	.0281	.1413	.0770

Significant Center nested in Treatment differences were evidenced in three different treatment conditions: T_1, T_3, and T_4. As can be noted in the above table, in all three cases, the differences between the two centers is very extreme. No consistent Auspices effect can be determined however, as center two(franchised) has the higher score for socially unaware in T_1 and T_4, while center one(non-franchised) has the higher score in T_3. In spite of these extreme scores, an interpretation of the treatment means suggests that children in T_1(classroom programs) were more often in unoccupied or solitary play than were children in any other treatment. The children in T_2(parent programs) were consistently less often in such socially unaware states. The extreme differences between centers however, makes it difficult to assess the true treatment effect on this variable.

TABLE 4.39

Adjusted Post Test Facilitative of Interaction Means

	Center 1	Center 2	Treatment Grand Mean
T_1	8.268	4.862	6.823
T_2	5.359	2.114	3.662
T_3	2.714	1.621	2.040
T_4	2.051	2.762	2.358

Post hoc analysis suggests significant center differences exist in only T_2(parent programs) condition. These center means are not that extreme, however. It can be noted that children in T_1(classroom programs) were the most facilitative of interaction. This variable represents the frequency of intervals in which the subject accepts or continues play at the associative or cooperative level relative to the frequency of intervals in which such play is carried on at lower levels of social behavior. Children in both T_1 and T_2 conditions had significantly higher facilitative of interaction scores than the control children.

Heterogeneity of Interaction

Five pairs of variables were formed to assess intergroup attitudes of children as exhibited in the peer interaction play setting. One each of these variables represents the heterogeneity of behavior relative to peers of the unlike Sex and the other to the unlike SES. These variables are Heterogeneity of Initiations, Tolerance for unfamiliar behavior(a response variable), Heterogeneity of control(an impact variable), Differential voice tone and Differential physical tone. The first three sets of variables are ratios of the proportion of these respective behaviors that are exhibited to unlike peers versus to like peers. The two differential affect variables are mean ratings for Voice tone and Physical tone when the object of the interaction is an unlike peer compared to when the object of the interaction is undifferentiated (to all peers).

The Multiple Regression Analysis to test for the degree of association between pre-test covariates and post-test scores approached significance at $P < .0608$.

All pre-test scores on these variables were included as covariates in the subsequent analysis. The results of the Multivariate Analysis of Covariance applied to the 2 x 4 x 2 x 2 way design are reported in Table 4.40.

TABLE 4.40

RESULTS OF MANCOVA ON HETEROGENEITY VARIABLES OF THE OSB

Covariates are all pre-test scores in the Heterogeneity group of variables
N=160

	F-ratio	Degrees of Freedom	Probability
TESTS FOR MAIN EFFECTS:			
Treatment	1.6648	30 & 344	.0177*
Center nested in Treatment	1.4755	40 & 346	.1343*
Social Economic Status(SES)	1.5501	10 & 117	.1305
Sex	.7753	10 & 117	.6523
TESTS FOR INTERACTIONS:			
Treatment X SES	.7541	30 & 344	.8238
Treatment X Sex	1.0527	30 & 344	.3947
SES X Center in Treatment	.9325	40 & 446	.5913
Sex X Center in Treatment	.6884	40 & 446	.9267
SES X Sex	.7866	10 & 117	.6405
Treatment X SES X Sex	.5838	30 & 344	.9622
SES X Sex X Center in Treatment	.9751	40 & 446	.5169

No significant interactions were revealed therefore allowing a clear test for main effects. As can be observed above, significant Treatment and Center nested in Treatment Effects exist for the Heterogeneity of interaction variables. The variables contributing to the signficant main effects are reported in Tables 4.41 and 4.42.

TABLE 4.41

VARIABLES CONTRIBUTING TO SIGNIFICANT TREATMENT MAIN EFFECTS ON
THE HETEROGENEITY OF INTERACTION VARIABLES OF THE OSB

Multivariate F-ratio 1.6648 df= 30 & 344 P < .0177

Variables	Univariate F-ratio	Probability less than
Heterogeneity of Initiations(Sex)	3.2596	.0239*
Heterogeneity of Initiations(SES)	2.7859	.0436*
Tolerance for unfamiliar Behavior(Sex)	.4644	.7359
Tolerance for unfamiliar Behavior(SES)	.3536	.7866
Heterogeneity of Control(Sex)	1.4102	.2430
Heterogeneity of Control (SES)	1.0665	.3659
Differential Voice Tone(Sex)	.0699	.9759
Differential Voice Tone(SES)	.1987	.8971
Differential Physical Tone(Sex)	1.3757	.2533
Differential Physical Tone(SES)	4.3064	.0063*

Degrees of freedom for hypothesis - 3
Degrees of freedom for error - 126

TABLE 4.42

VARIABLES CONTRIBUTING TO SIGNIFICANT CENTER NESTED IN TREATMENT MAIN EFFECTS ON THE HETEROGENEITY OF INTERACTION VARIABLES OF THE OSB

Multivariate F-ratio 1.4735 df= 40 & 346 P < .0343

Variables	Univariate F-ratio	Probability less than
Heterogeneity of Initiations(Sex)	.2843	.8878
Heterogeneity of Initiations(SES)	3.8219	.0058*
Tolerance for unfamiliar Behavior(Sex)	1.1057	.3569
Tolerance for unfamiliar Behavior(SES)	2.3429	.0584
Heterogeneity of Control(Sex)	.7062	.5892
Heterogeneity of Control(SES)	2.9095	.0243*
Differential Voice Tone(Sex)	.2146	.9300
Differential Voice Tone(SES)	2.1575	.0776
Differential Physical Tone(Sex)	.5635	.6896
Differential Physical Tone(SES)	3.7681	.0063*

Degrees of freedom for hypothesis - 4
Degrees of freedom for error - 126

Three variables contributed to the significant Treatment Main Effect. Only one of them, however, is a clear test as two others also contribute to significant Center nested in Treatment differences. These three variables: Heterogeneity of Initiations(Sex), Heterogeneity of Initiations(SES), and Differential Physical Tone(SES) are reported in Tables 4.43 - 4.45.

TABLE 4.43

Adjusted Post Test Heterogeneity of Initiations (Sex) Means

	Center 1	Center 2	Treatment Grand Mean
T_1	3.907	2.539	3.327
T_2	5.423	4.654	5.021
T_3	6.724	8.697	7.941
T_4	6.385	4.376	5.516

As no Center nested in Treatment effects were observed for this variable, the adjusted post treatment means can be discussed. As noted above, children in T_3(both programs) exhibited the highest Heterogeneity of Initiation(Sex) scores. The children in T_1(classroom programs) has the lowest post scores.

TABLE 4.44

Adjusted Post Test Heterogeneity of Initiations (SES) Means

	Center 1	Center 2	Treatment Grand Mean
T_1	8.550	6.535	7.695
T_2	4.707	5.877	5.328
T_3	8.911	9.022	8.979
T_4	10.190	7.841	9.177

Post hoc Schaffe analysis suggests significant center nested in Treatment differences within T_2 only. These differences are relatively moderate, therefore the Treatment means will be discussed. All treatment conditions evidenced lower adjusted post scores on this variable than the control condition. Children in T_2(parent programs) exhibited the lowest Heterogeneity of Initiations(SES) scores with children in T_1(classroom programs) and T_3(both programs) exhibiting moderate levels of heterogeneity of initiations(SES).

TABLE 4.45

Adjusted Post Test Differential Physical Tone (SES) Means

	Center 1	Center 2	Treatment Grand Mean
T_1	.3475	.4282	.3518
T_2	.8543	.5138	.6763
T_3	.2867	.4227	.3476
T_4	.3512	.3942	.3698

Post hoc analysis revealed significant center nested in Treatment differences in T_2 only. Although the mean for center one within this treatment condition is the highest of all other centers, the mean for center two is also relatively high; therefore, the treatment mean will be considered relative to the other treatment means. As can be observed above, T_3(both programs) children evidenced the highest Differential Physical tone(SES) as compared to all other treatment conditions while T_2(parent programs) evidenced the lowest scores. With this variable, since the scores are in the negative, the children in all centers and treatments produced more negative affect in their physical behavior when interacting with unlike peers than when interacting with undifferentiated peers.

Impact

The four variables that make up the impact category of behaviors represent the first attempt to operationalize a communication model that defines communication as behavior effecting the behavior of others. Therefore the impact variables assess the degree to which subjects' through their behavior effect other's behavior. Children with higher levels of impact theoretically, are more often attended to and therefore exert a stronger influence over others.

The four variables in this category are Intensity of Control, Positive control, Environmental Control, and Nonverbal Style of Communicating. The first variable is the mean rating of the intensity to which one makes an impact on others. Positive Control denotes the relative proportion of acceptances versus rejections that are effected. Environmental Control represents the general efficiency of communication; the proportion of intervals in which impact or communication occurs versus the proportion in which it does not occur. And the last variable represents the proportion of intervals that are nonverbal versus verbal in which communication occurs.

The Multiple Regression Analysis to test for the degree of association between these pre-test covariates and their post-test scores was not significant($P < .1061$).

Although only one covariate reached significance, all four covariates were included in the subsequent analysis. The results of the Multivariate Analysis of Covariance are reported in Table 4.46.

TABLE 4.46

RESULTS OF MANCOVA ON IMPACT VARIABLES OF THE OSB

Covariates are all pre-test scores in the impact group of variables

N=148

	F-ratio	Degrees of freedom	Probability
TESTS FOR MAIN EFFECTS:			
Treatment	4.2287	12 & 342	.0001*
Center nested in Treatment	2.7291	16 & 395	.0004*
Social Economic Status(SES)	.5527	4 & 129	.6974
Sex	1.3290	4 & 129	.2627
TESTS FOR INTERACTIONS:			
Treatment X SES	.4884	12 & 342	.9213
Treatment X Sex	.9232	12 & 342	.5237
SES X Center in Treatment	.8375	16 & 395	.6427
Sex X Center in Treatment	1.1677	16 & 395	.2913
SES X Sex	.7932	4 & 129	.5317
Treatment X SES X Sex	.4509	12 & 342	.9414
SES X Sex X Center in Treatment	1.0308	16 & 395	.4226

TABLE 4.47

VARIABLES CONTRIBUTING TO SIGNIFICANT TREATMENT MAIN EFFECT ON THE IMPACT VARIABLES OF THE OSB

Multivariate F-ratio 4.2287 df= 12 & 342 $p < .0001$*

Variables	Univariate F-ratio	Probability less than
Intensity of Control	.9149	.4357
Positive Control	.5443	.6529
Environmental Control	5.1256	.0022*
Nonverbal Style of Communicating	11.2891	.0001*

Degrees of freedom for hypothesis - 1
Degrees of freedom for error - 132

TABLE 4.48

VARIABLES CONTRIBUTING TO SIGNIFICANT CENTER NESTED
IN TREATMENT DIFFERENCES ON IMPACT VARIABLES OF THE OSB

Multivariate F-ratio 2.7291 df= 16 & 395 P < .0004*

Variables	Univariate F-ratio	Probability less than
Intensity of Control	2.4077	.0326
Positive Control	4.1340	.0034*
Environmental Control	1.0874	.3655
Nonverbal Style of Communicating	4.49[illegible]	.0020*

Degrees of freedom for hypothesis - 1
Degrees of freedom for error - 132

Of the two variables contributing to significant Treatment Main Effects, only one also contributed to center nested in Treatment differences. A clear interpretation of Environmental Control is possible, however, the Nonverbal Style of Communicating variable must be discussed relative to center and treatment differences. The tables of these adjusted post-test means are reported in Tables 4.49 and 4.50.

TABLE 4.49

Adjusted Post Test Environmental Control Means

	Center 1	Center 2	Treatment Grand Mean
T_1	1.282	1.413	1.337
T_2	.5619	.5093	.5344
T_3	1.543	.9749	1.192
T_4	.9132	.9490	.9287

Post hoc Scheffe contrasts indicate significant differences between T_2 and all other treatment conditions. As can be observed in the above table, the children in T_2(parent programs) evidenced the lowest environmental control scores. Children in T_1 and T_3 conditions had the highest scores. In other words, the children receiving the classroom programs or both programs exhibited a larger number of intervals in which they did communicate or did impact on other peers than did the children receiving the parent programs.

TABLE 4.50

Adjusted Post Test Nonverbal Style of Communicating Means

	Center 1	Center 2	Treatment Grand Mean
T_1	2.495	.8589	1.801
T_2	2.587	.7788	1.642
T_3	.4799	.4310	.4497
T_4	.7990	1.034	.9006

The post hoc analysis of this variable suggest significant center differences exist within T_2 only. As can be seen from the above table, these differences in mean scores for the two centers in T_2 are as great as are other differences in other treatment conditions. Reviewing the grand means for treatments and the post hoc analysis, it can be noted that children in the T_1(classroom programs) and T_2(parent programs) conditions had significantly higher nonverbal scores than the control children. Within these centers, children effected greater influence over other peers through the nonverbal mode than through the verbal mode. The children in the T_3(both programs) and T_4(control) conditions were more verbal than nonverbal.

Affect

Four variables were grouped in this category: Voice Tone, Physical Tone, Social Competency, and Emotionality. These are all mean ratings of perceived affect displayed across all intervals. The Voice Tone and Physical Tone variables reflect the affect associated with specific verbal and nonverbal behaviors. The Social Competency variable reflects the degree of concern expressed toward peers. Lastly, the Emotionality variable reflects the subject's level of happiness or sadness as expressed through play behavior.

The Multiple Regression Analysis testing for the degree of association between pre-test covariates and post-test scores was significant at the .0215 level of probability.

The results of the Multivariate Analysis of Covariance applied to the 2 x 4 x 2 x 2 way design are reported in Table 4.51.

TABLE 4.51

RESULTS OF MANCOVA ON AFFECT VARIABLES OF THE OSS

Covariates are all pre-test scores in the Affect group of variables

N=168

	F-ratio	Degrees of freedom	Probability
TESTS FOR MAIN EFFECTS:			
Treatment	7.2178	12 & 342	.0001*
Center nested in Treatment	5.1133	16 & 395	.0001*
Social Economic Status(SES)	2.9025	4 & 129	.0244*
Sex	1.1660	4 & 129	.3290
TESTS FOR INTERACTIONS:			
Treatment X SES	.5763	12 & 342	.8612
Treatment X Sex	1.2771	12 & 342	.2303
SES X Center in Treatment	.7724	16 & 395	.7173
Sex X Center in Treatment	.7306	16 & 395	.7629
SES X Sex	1.1185	4 & 129	.3507
Treatment X SES X Sex	.2597	12 & 342	.9945
SES X Sex X Center in Treatment	1.0290	16 & 395	.4245

TABLE 4.52

VARIABLES CONTRIBUTING TO SIGNIFICANT TREATMENT MAIN EFFECTS ON THE AFFECT VARIABLES OF THE OSB

Multivariate F-ratio 7.2178 df= 12 & 342 P <.0001*

Variables	Univariate F-ratio	Probability less than
Voice Tone	1.8978	.1331
Physical Tone	4.2941	.0064*
Social Competency	1.4141	.2416
Emotionality	22.8747	.0001*

Degrees of freedom for hypothesis - 1
Degrees of freedom for error - 132

TABLE 4.53

VARIABLES CONTRIBUTING TO SIGNIFICANT CENTER NESTED IN TREATMENT DIFFERENCES ON AFFECT VARIABLES OF THE OSB

Multivariate F-ratio 5.1133 df= 16 & 395 P< .0001

Variables	Univariate F-ratio	Probability less than
Voice Tone	1.4613	.2177
Physical Tone	5.4906	.0005*
Social Competency	1.8300	.1268
Emotionality	11.9181	.0001*

Degrees of freedom for hypothesis - 1
Degrees of freedom for error - 132

TABLE 4.54

VARIABLES CONTRIBUTING TO SIGNIFICANT SES MAIN EFFECT ON AFFECT VARIABLES OF THE OSB

Multivariate F-ratio 2.9025 df= 4 & 129 P<.0244*

Variables	Univariate F-ratio	Probability less than
Voice Tone	5.5522	.0200*
Physical Tone	3.0722	.0820
Social Compentency	.5760	.4493
Emotionality	2.9361	.0890

Degrees of freedom for hypothesis - 1
Degrees of freedom for error - 132

Only one of the variables contributing to significant Treatment effects also contributed to significant Center nested in Treatment differences. This variable was Emotionality. The other significant variable contributing to Treatment Main effects was Voice tone. The adjusted post test mean scores for these two variables are reported in Tables 4.55 and 4.56.

TABLE 4.55

Adjusted Post Test Voice Tone Means

	Center 1	Center 2	Treatment Grand Mean
T_1	2.543	2.422	2.492
T_2	2.472	2.308	2.386
T_3	2.343	2.198	2.253
T_4	2.145	2.400	2.255

As no center differences were evidenced in the analysis of this variable the Treatment means can be directly compared to note relative differences across treatment conditions. A post hoc analysis of the treatment effects indicate significant differences lie between T_1 and T_4 conditions. As noted in the table above, the children in T_1(classroom programs) exhibited the highest Voice Tone means. These children conveyed a more positive affect in their voices than the control children. Children in T_2(parent programs) exhibited the next highest means for Voice Tone ; the children in T_3(both programs) and T_4(control) exhibiting the lowest mean scores.

TABLE 4.56

Adjusted Post Test Emotionality Means

	Center 1	Center 2	Treatment Grand Mean
T_1	3.768	3.701	3.740
T_2	4.138	3.521	3.816
T_3	3.256	3.206	3.225
T_4	3.216	3.632	3.395

Post hoc Scheffe analysis indicates significant center nested in treatment differences exist within T_2 and T_4 conditions. As can be observed in the above table, the two centers in the T_2 condition both had relatively high Emotionality scores, while the two centers in T_4 have one high and one relatively low mean. Comparing the grand means for Treatments, the children in both T_1(classroom programs) and T_2(parent programs) conditions exhibited the highest post mean scores for Emotionality. These were significantly higher than the mean score for the control treatment in spite of center differences in T_4.

As significant Main Effects for SES was also evidenced, the variable contributing to this effect is reported in Table 4.57.

TABLE 4.57

Adjusted Post Test Mean Voice Tone Scores

Social Economic Group Membership	
LOW	MID
2.422	2.248

Low SES children conveyed a more positive affect in their verbal exchanges than did Mid SES children.

SUMMARY OF THE RESULTS OF THE PRIMARY ANALYSES

TREATMENT MAIN EFFECTS

Classroom Variables

1. Children in the T_3(both programs) condition were the most gregarious in the classroom observations, playing in proximity to the largest average number of children.

2. Children in T_2(parent programs) exhibited the least amount of adult dependency in the classroom observations, followed by the T_1(classroom program) and T_3(both programs) children. Control children exhibited the most dependency.

3. Children in T_1(classroom program) had the highest peer association scores on the classroom observations of all treatment conditions. Thus these children played at the associative or cooperative levels of play more frequently and with more children than any other group. Children in the T_2(parent programs) condition had the lowest scores for this variable.

Initiation and Response Variables

1. Children in T_1(classroom program) initiated most often after responding to a peer in an accepting manner. T_3(both programs) had the lowest responsive initiatinn scores.

2. The children exhibiting the largest proportion of initiations relative to response or ongoing behavior were in T_3(both programs). T_1(classroom program) and T_4(control) children had moderately high initiative scores.

3. T_1(classroom program) children followed by T_2(parent programs) children exhibited the highest ratio of acceptiveness to rejectiveness of responses.

4. The highest responsivity scores were noted in the T_1(classroom program) condition followed by the T_2(parent programs) and T_4(control) conditions.

5. T_4(control) children exhibited the highest duration of interaction scores. Thus these children, followed closely by T_3(both programs) children, exhibited more noninteractive play as represented by the larger proportion of intervals in ongoing play relative to interactive play.

Verbal Variables

1. Children in T_3(both programs) exhibited the highest proportion of verbal vs nonverbal intervals. Children in T_1(classroom program) were the least verbal with children in T_2(parents programs) and T_4(control) exhibiting moderate amounts of verbalizations, being more verbal than nonverbal.

2. Children in all Treatment conditions exhibited less fantasy verbalizations than control children. The greatest differences lie between T_3(both programs) and T_4(control) groups; T_3children exhibiting the least amount of fantasy verbalizations.

Peer Interaction Variables

1. T_1(classroom program) and T_3(both programs) children were more gregarious than control children. Children in all treatment conditions played with larger numbers of children per interval than control children.

2. Children in T_2(parent programs) had the highest autonomy scores followed by T_1(classroom program) and T_4(control) children.

3. The children who were the most facilitative of interaction were in T_1(classroom program), followed by a substantially lower level by T_2(parent programs) children. Thus children receiving the classroom programs facilitated play at an associative or cooperative level more often than any other group of children.

Heterogeneity of Interaction Variables

1. T_3(both programs) children had the highest heterogeneity of initiations to the opposite sex of any group. T_1(classroom program) children were the least heterogeneous in regard to initiating to the opposite sex.

2. Other than the control children who scored highest, T_3(both programs) and T_1(classroom program) children were more heterogeneous in their initiations to the opposite SES than T_2(parent programs) children.

3. Children in all conditions exhibited more negative affect in their physical behavior when interacting with unlike SES peers than when interacting with undifferentiated peers. T_3(both programs) children were the least differentiated and T_2(parent programs) children the most differentiated.

Impact Variables

1. Children in the T_2(parent programs) condition exerted the least environmental control or influence on others while children in T_1(classroom program) and T_3(both programs) conditions exerted the most influence.

2. T_1(classroom program) and T_2(parent programs) children communicate in the nonverbal mode more than in the verbal mode and significantly more than do control or T_3(both programs) children. T_3 and T_4 children exert influence or communicate in the verbal mode more than the nonverbal mode.

Affect Variables

1. T_1(classroom program) children convey a more positive affect in their voice than control children.

2. T_1(classroom program) and T_2(parent programs) children express more positive emotions in their play than T_3(both programs) and T_4(control) children.

SES MAIN EFFECTS

1. Low SES children more often choose Mid SES peers as playmates on the Play Situation Picture Board Sociometric than do Mid SES children choose Low SES peers.

2. Low SES children convey a more positive affect in their voice than Mid SES children.

SEX MAIN EFFECTS

1. Males are more likely to choose peers from the opposite social class on the Play Situation Picture Board Sociometric than are females. Thus, males are more heterogeneous in regard to social class than are females.

2. Males are more heterogeneous in regard to interacting with children from the opposite social class during the classroom observation than females.

3. Females exhibit more adult dependency during the classroom observations than males.

4. Males exhibit more fantasy verbalizations than females.

INTERACTIONS

1. A significant three way interaction of Treatment X SES X Sex was evidenced on the Brown IDS Self Concept Referent Test variables.

   a. Within the low SES group, females had equal or better self concept scores than males across all treatment conditions. Within the Mid SES group, however, females had better self concept scores than males in the T_2(parent programs) and T_3(both programs) conditions only. Mid SES males in the T_1(classroom program) condition had extremely high self concept scores, higher than any other group.

   Mid SES children on the whole had higher self scores than Low SES children. An exception to this were the low SES children receiving the T_2(parent programs) condition who exceeded all groups but the male Mid SES group.

b. With the mother referent of the Brown Test, Mid SES children scored higher than Low SES children in all groups except for females receiving the parent and classroom programs.

Females had higher mother referent scores than males in all groups except in the Low SES T_3(both programs) group and the Mid SES T_1(classroom program) group. Mid SES males in the T_1(classroom program) condition had the highest perceptions of their mothers feelings toward themselves.

c. Discrepency scores on the Brown Test assessed the degree to which children differentiated between feelings about self and perceived mother's feelings about themselves. Females in the T_2(parent programs) condition differentiated the least regardless of SES. In general, males had more differentiated feelings than females, although both Low SES and Mid SES females in T_1(classroom program) were more differentiated than their male counterparts.

2. Although the following results only approached significant ($P \leq .07$), an SES X Center nested in Treatment Interaction was evidenced on the Sociometric Status variables. Both Low and Mid SES children in T_1(classroom program) were the least heterogeneous in regard to being chosen by opposite sex peers on the Play Situation Picture Board Sociometric. Some Low SES children in T_2(parent programs) and T_3(both programs) conditions were the most heterogeneous in sociometric status based on sex.

T_3(both programs) children were the most heterogeneous in regard to being chosen by opposite SES peers on the Play Situation Picture Board Sociometric. Mid SES children were more heterogeneous in status than low SES children in T_1, while SES groups differed less in other treatment conditions.

II. INTRODUCTION TO SECONDARY ANALYSES

The second section of this chapter reports the results of various secondary analyses that were implemented to further investigate initial differences among groups and interrelationships among variables. Of particular interest were:

A. Potential reasons for the consistent center differences in the Multivariate Analysis of Covariance Tests.

B. Intercorrelations among variables noting relationships between:

   1. demographic characteristics and self concept and how self concept may be related to peer interaction.

   2. the various variables assessing inter-group orientations and attitudes as reflected in sociometric choices and play involvement of peers in both the classroom and the small group play setting.

A. RESULTS OF ANALYSES OF DEMOGRAPHIC CHARACTERISTICS OF FAMILIES BY CENTER

Center differences with $T_2$and T_4 conditions were frequent-observed, especially on the OSB variables. Because of this, chi square analyses were implemented to determine if the families in these centers were significantly different on basic demographic characteristics. The results of the analyses will be reported within each treatment condition separately.

Centers nested in T_2

A very basic difference between these two centers was the ethnicity of their clientele. C_1 was 92% black, while C_2 was 81% anglo and only 12.5% black. Although this fact in itself may relate to how the children in the centers responded to the treatment, it is not possible with the present data to test specifically for these interactions, as ethnic membership is not crossed with centers. However, no ethnic differences on demographic characteristics were observed with the sample as a whole.

There were no significant differences between these two centers on mother's part or full time employment, mother's occupation, mother's education, the ordinal position of the child, the number of children in the families, family status of single or two parent families, and father's education or occupation. The only differences were in the highest category of income ($200. or more per week). C_1 had fewer families in this category than C_2. Basically, the families in these two centers were very similar, except for ethnicity.

Centers nested in T_4

These centers were very similar on the ethnic background of their families. C_1 was 70% anglo and 30% black, while C_2 was 80% anglo and 20% black. Greater differences were observed on the organization and length of establishment of these two centers; C_1 being the oldest, largest, and best staffed of all centers in the sample.

There were no significant differences between these centers on the number of single and two parent families, the number of children in the families, the ordinal position of the child, the family income, fathers education or occupation, mother's part or full time employment, and mother's occupation. Significant differences were observed between the two centers on the number of mothers with college degrees. More mothers in C_1 had college degrees than C_2

Treatment

Significant differences across treatment conditions were observed on mother's education. Both T_2 and T_3 had more mothers with high school or less education than T_4. Likewise, more mothers were semiskilled in T_2 compared to T_4. No differences were observed on mothers' part or full time employment, family income, and fathers' occupation and education. Children in T_2 were less likely only children and more likely older children in the family than children in T_4. Children in T_3 were more likely from single parent families, while T_4 had more than expected two parent families. Similar comparisons were made with T_1 and T_4. None of these were significant.

In summary, the profiles of the families in T2 and T_3 compared to T_4 and T_1 were similar to characteristics of low SES families. The families of children in the control centers, based on these family characteristics, were generally of higher social and economic standing. How this influences the children's behavior on the dependent measures is difficult to assess, but basic SES differences on the dependent variables were usually not significant.

B. RESULTS OF ANALYSES OF DEMOGRAPHIC CHARACTERISTICS OF FAMILIES AND CHILDREN"S PRE-TEST SCORES

Ethnic Background

As ethnicity was not controlled in this study by inclusion as an independent variable, various basic chi square analyses were carried out to see if ethnic groups differed on demographic characteristics.

No significant differences were observed between black and anglo children based on sex, age, months since child entered the day care center, SES group membership, distribution by single or two parent families, distribution across maternal occupational and educational categories, mother's part or full time employment, child's ordinal position and number of children in the family. Basically, no ethnic differences were revealed in these analyses of contingency tables.

Various analyses of variance tests were implemented using pretest data to note differences between black and anglo children on some of the main dependent variables. Anglo children had significantly higher mother referent scores ($p < .0282$), but no differences were noted on the self scores. Anglo children had lower activity levels during the small group play session ($p < .0358$). Black children were not only more active, but also exhibited more rough and tumble play as reflected in significant differences between the two groups on Aggression scores ($p < .0002$). The involvement, peer proximity, and environmental control variables approached significance at $p < .08$. Anglo children played in proximity to larger numbers of children, while black children had higher involvement scores during the classroom observation and exerted more environmental control during the play session.

Social Economic Group Membership

Significant differences were found between social economic status groups on basic demographic variables. These chi square analyses confirm the existence of differential patterns of family life that characterize SES groups.

More low SES families were single parent families while more mid SES families were two parent families (X^2=42.68). The child from a low SES family was more likely the second, third or fourth child in the family, while children from mid SES families were more likely the only child in the family (X^2=11.12 for ordinal position; X^2=16.23 for number of children in the family).

No significant differences between SES groups were observed on mother's part or full time employment but other characteristics of the mother's education and occupation were significantly different. More often low SES mothers were in semi-skilled positions and had high school or less education. Mid SES mothers were more likely professionally employed and had college degrees.

In a supplementary analysis of the pre-test data, SES differences were observed on self concept scores ($P \leq .0324$). Mid SES children having higher self concept scores than low SES children. After treatment, as reported in the Multivariate Analysis of Covariance tests, a SES x Sex x Treatment interaction was evidenced. In noting Figure 3-C, the Mid SES children still had higher post self scores than the low SES children in all Treatments except T_2 (Parent programs). Low SES children in this treatment condition exhibited more positive feelings of self esteem than other low and mid SES children.

Family Status

As a large number of children in the sample came from single parent families, characteristics of the mother's education and occupation were compared for single and two parent families. No significant differences were found on mother's part or full time employment (X^2=.47). Differences by occupation and education were significant. Mothers in single parent families were less likely to be professional and more likely semi-skilled employees. Mothers in two parent families were more likely in professional positions and less likely semi-skilled (X^2=11.22).

Similar patterns were observed across educational levels. Although the significant differences were based on the distribution of mothers in the high school plus occupational training category and the college degree category. Mothers of single parent families were less likely to be college graduates although they were more likely than mothers in two parent families to have high school plus some training. In fact, many of these mothers may be currently in college or training programs(X^2=16.82). Mothers of two parent families were more likely college graduates. No significant differences were observed in the number of children in these two types of families.

No differences were found between single and two parent families in the analyses of some of the basic dependent variables on the pre-test data. For instance, no significant differences were found on self concept scores, status scores, involvement, social behavior, activity level, peer proximity, aggression, environmental control and others.

C. INTERRELATIONSHIPS AMONG VARIABLES

Self Concept

In this study, self concept has been measured by the Brown

IDS Self Concept Referent Test, a photographic projective technique that elicits a choice between two bipolar adjuctives on a list of 14 attributes about the self. The higher the scores, the more positive the child's feelings about himself. The relationships between the self scores and basic demographic characteristics of families and other dependent variables were explored through the ANOVA, Pearson's Product Moment Correlations and Multiple Regression techniques.

Relationships between demographic characteristics and Self Concept

Using the pretest data, analyses of variance were implemented to note differences between groups on child's self concept. No significant differences were observed based on ethnic group membership or family status. A significant difference($P < .0324$) was noted between social economic status groups. Mid SES children exhibited higher self concept scores than low SES children. This same relationship was observed in a significant negative correlation between self concept and SES value($r=-.2168$). Higher SES values represent lower social economic status. Thus, the lower the family's status, the poorer the child's self concept.

Relationships Between Sociometric Choices, Play Behavior, and Self Concept

The only significant relationship between self concept and the sociometric variables was with Sociometric Status(r=-.2339). The negative relationship suggests that children with higher self concepts were chosen less frequently as playmates on the Picture Board Sociometric. No significant relationships were evidenced with the social behavior variables, but a negative relationship was also observed between self concept and Facilitative of Interaction(r=-.2877). Thus during the play session, children who facilitated play at associative and cooperative levels of social behavior were children with poorer self concepts. Likewise, the Peer Interaction variable was negatively related to self concept(r=-.1379). This variable represents the average number of children in interaction per interval during the play session. A similar variable from the classroom observation, Peer Proximity was positively related (r=.1171). Proximity, however, represents play at all levels of social behavior while Peer Interaction represents play at the more involved levels only. Thus the children with poorer self concepts exhibited more interactive play and with larger numbers of children. A negative relationship also exists for self concept and Nonverbal Style of Interaction (r=-.2033). Children with poorer self concept scores more frequently influenced others in the nonverbal vs verbal mode. Verbal scores per se were not significantly related to self concept.

With the more affective variables, self concept was positively related to Autonomy(r=.2588) and Social Leadership (r=.1976). A positive relationship also exists for Differential Voice and Physical Tone to the opposite sex(r=.1658 and .1871 respectively). Children with higher self concepts exhibiting more differentiation in their behavior to the opposite sex. Heterogeneity of Control (SES) was negatively related to self concept(r=-.1702). Thus children with poorer self concepts exhibited more control over the interactions across SES lines.

A multiple regression analysis predicting self concept scores using pre-test data was significant at P ≤.0001 accounting for 28% of the variance. The results of this analysis are reported in Table 4.58.

TABLE 4.58

RESULTS OF MULTIPLE REGRESSION ANALYSIS PREDICING PRE SELF SCORES

Multiple R = .5294   F-ratio = 3.556 $P \leq .0001$

Variable	F-ratio	Probability	R^2
Facilitative of Interaction	13.438	.000	.082
Autonomy	9.818	.002	.138
Status	6.969	.009	.177
SES value	4.219	.042	.199
Initiative	3.441	.066	.218
Emotionality	4.569	.034	.242
Activity level	2.568	.111	.255
Verbalizations	1.637	.203	.263

(Variables entered in a step-wise regression)

In this analysis Facilitative of Interaction and Autonomy were the most significant predictors of self concept scores. Other significant predictors were: Status, SES value, Initiative, and Emotionality. The child's age and variables reflecting experience in group care were not significant predictors of self concept.

These results suggest that self concept as measured in this study was not related to age, maturity, or experience, but rather to specific affective states as reflected in autonomy and emotionality and associated with SES group membership, and patterns of interacting with the social environment.

In summary, although self concept was not related to many of the family characteristics except SES group membership, it was related to play behavior variables. Negative correlations with status and peer interaction variables suggest that children with poorer self concepts were more active at associative and cooperative levels of play and in effecting the behavior of others through the nonverbal mode. Also, children with poorer self concepts displayed less differentiation in their voice and physical tone when interacting with the opposite sex.

The Measurement of Inter-Group Attitudes

In this study inter-group attitudes have been operationalized by a variety of variables denoting differential behaviors towards peers of the opposite sex or social economic status compared to behaviors toward peers of the same sex or social economic status.

On the Play Situation Picture Board Sociometric, both the child's heterogeneity of choices and heterogeneity of status is measured. During the Classroom Observation heterogeneity of associations is measured as the proportion of time at associative or cooperative levels of play with unlike peers compared ot the proportion of time with like peers. From the Observation of Socialization Behavior Instrument(OSB) five sets of variables measure the child's differential behavior toward unlike peers: Heterogeneity of Initiations; Tolerance for unfamiliar behavior, a response variable; Heterogeneity of Environmental Control; Differential Voice tone; and Differential Physical Tone.

Using the pretest data only, as representative of baseline behavior, the relationships among these variables were investigated. A Pearson's Product Moment Correlation Coefficient was derived for pairs of these variables on all of the subjects who had both pairs of data. The number of subjects varied from 160-168. These correlations are reported in Appendix D. Those relationships that are significant at $P \leq .05$ are discussed in the following sections.

The Relationship Between Child Background Characteristics and Heterogeneity

There was a positive relationship between Heterogeneity of Initiations to opposite sex peers and age ($r=.1917$). No other heterogeneity variables, however, were significantly correlated with age. Total experience in group care was positively related to Heterogeneity of Sex Status (being chosen as a playmate by an opposite sex peer, r=.1390) and Heterogeneity of Initiations to opposite SES peers in the play setting (r=.1505), but negatively related to Heterogeneity of SES Choices on the Picture Board Sociometric(r=-.1250). This latter relationship suggests that with increased experience children are more likely to be chosen by opposite sex peers but less likely to choose opposite SES peers as sociometric choices.

The amount of time that the child has been enrolled in the particular Day Care Center as reflected in months since child entered was positively related to Heterogeneity of Sociometric Status(SEX), Tolerance for unfamiliar behavior of opposite sex peers and Heterogeneity of Control(SEX and SES). Thus familiarity with specific children did aid in the expression of heterogeneity.

Social Economic Status was positively related to Heterogeneity of SES Choices(r=.3625) and Heterogeneity of Control(SES) (r=.1787). As increasing SES values reflect lower social economic status, Low SES children were more heterogeneous in choosing and influencing Mid SES peers than were Mid SES children.

Relationships Between Sociometric Choices and Play Behavior

The Picture Board Sociometric variables did relate positively to Heterogeneity of Associations in the classroom. Children who choose opposite SES peers as playmates on the Picture Board also play with opposite sex and SES peers in the classroom.

Heterogeneity of sex is strongly related to heterogeneity of SES in the classroom observation(r=.9948) suggesting that children who tended to play with opposite sex peers also played with opposite SES peers. This was not the case in the small play setting where two boys and two girls one of each SES group played together. In the play setting, Heterogeneity of Initiations to the opposite sex is positively related to Tolerance for the unfamiliar behavior of the opposite sex (r=.1725) but negatively related to Tolerance for the unfamiliar behavior of the opposite SES (r=-.1559). Children who respond to the opposite sex do not respond to the opposite SES(and vice versa) as reflected in negative correlations between Tolerance for unfamiliar behavior Sex and SES(r=-.24).

Positive relationships between initiation and response scores indicate that children who are heterogeneous in responding to opposite sex or SES peers also initiate to opposite sex and SES peers. However, negative correlations between Heterogeneity of Initiations(Sex) and Tolerance for unfamiliar behavior(SES), and Tolerance(SEX) and Tolerance(SES) suggest that children either interact with opposite sex or opposite SES peers but not both.

An examination of the pretest ratios reveals that on four of the five sets of heterogeneity variables from the OSB and on the classroom variable, children are more heterogeneous toward peers of the opposite SES than they are toward peers of the opposite sex. Only on differential physical tone was this pattern not maintained across all classroom, SES, and sex groups.

The difference in the magnitude of these scores suggest that children's sex attitudes are more strongly engrained than attitudes toward SES groups. Thus this information coupled with the direction of the relationship between the heterogeneity of initiation and response variables, suggest that children play across SES lines in order to play with "like" sex peers, but do not play across sex lines in order to play with "like" SES peers.

The differential voice and physical tone variables were positively related. Children with high Differential Voice Tone (sex) had high Differential Physical Tone (Sex) (r=.2598). Similarly for Differential Voice and Physical Tone (SES) (r=.399). However, Differential Physical Tone sex and SES is strongly related to Social Behavior(r=.4361 and r=.3108 respectively). Children with more socially mature levels of play are more differentiated in their physical play to "opposite" versus "like" sex and SES peers. These positive relationships also existed for Involvement in the classroom (r=.1511) and Autonomy (r=.1885) although at lower magnitudes.

Multiple Regression Analyses were implemented to predict Heterogeneity of Initiations during the small group play session using both demographic characteristics of children and social interaction variables as independent variables. Both the regression equations predicting Heterogeneity of Initiations (SES) and (Sex) were significant at $P < .001$. The results of these analyses are reported in Tables 4.59 and 4.60.

TABLE 4.59

RESULTS OF MULTIPLE REGRESSION ANALYSIS PREDICTING PRE HETEROGENEITY OF INITIATIONS(SEX)

Multiple R = .4388 F-ratio - 3.3389 $P < .001$*

Variable	F-ratio	Probability	R^2
Sex	9.628	.002*	.061
Gregariousness	7.266	.008*	.015
Age	5.0142	.027*	.134
Dif. Voice Tone(Sex)	3.3867	.068*	.155
Het. of Control(Sex)	2.6275	.107	.169
Tolerance(SES)	1.4511	.230	.177
Months entered	.7412	.391	.181
Het. of Control(SES)	.5625	.454	.185
Het. of Initiations(SES)	.8187	.367	.189
Ethnic	.5583	.456	.193

(variables entered in a step-wise regression)

TABLE 4.60

RESULTS OF MULTIPLE REGRESSION ANALYSIS PREDICTING PRE HETEROGENEITY OF INITIATIONS(SES)

Multiple R = .5578 F-ratio = 6.3233 P $<$ .0001*

Variable	F-ratio	Probability	R^2
Tolerance	16.4612	.0001*	.099
Environmental Control	10.4091	.002*	.159
Het. of Control (SES)	6.4967	.012*	.194
Peer Interaction	5.6334	.019*	.224
Het. of Assoc. (SES)	4.3365	.039*	.247
Dif. Voice Tone (Sex)	4.1449	.044*	.268
Het. of Choices (Sex)	3.7149	.056*	.186
Ethnic	1.9019	.170	.296
Age	1.8087	.181	.305
Het. of Control (Sex)	1.3083	.255	.311

(variables entered in a step-wise regression)

Different variables and a different ordering of variables predicted Heterogeneity of Initiations across Sex lines than across SES lines. As the earlier results would suggest heterogeneous behavior to be more difficult to observe across sex lines, the variables predicting these behaviors were of special interest.

As noted in Table 4.59, sex and age were the only demographic characteristics that significantly predicted Heterogeneity of Initiations(Sex). Both were positively related meaning that females were more heterogeneous in initiating to males and increasingly so with age. This relationship may be reflecting maturity. The significant play behavior variables were positively related. Thus gregariousness and the display of more differential affect in the voice predict initiations to the opposite sex. Both behaviors reflect autonomous, secure personalities. Therefore the results of this regression analysis suggest Heterogeneity of Initiations(Sex) to be related to social maturity.

On the other hand the significant predictors of Heterogeneity of Initiations (SES) were all play behavior variables. As they were all positively related to Heterogeneity of Initiations (SES) it would appear that children who respond and initiate across SES lines are those who are able to effect behaviors in others and play with a large number of children. These variables are more reflective of success in social interactions or social competency rather than maturity.

In summary, positive relationships among heterogeneity variables across instruments confirm to some degree the existence of patterns of inter-group attitudes. Children who choose playmates on the Picture Board Sociometric across SES lines also play with unlike SES peers in the classroom.

Children who choose opposite sex peers tend to impact on opposite sex peers in the small group play setting.

During the classroom observation children did not seem to differentiate between opposite sex and SES playmates. Children high in Heterogeneity of Sex were also high in Heterogeneity of SES. However, in the small group play setting, differential behaviors were observed; children more frequently crossing SES lines in order to play with "like" sex peers. A positive relationship also existed between quality of play as reflected in Social Behavior and Involvement scores and differential affect expressed through the voice and physical play behavior. Increased social involvement was related to increased differential affect. Thus with the pretest data the expression of intergroup attitudes was stronger with more autonomous, socially interactive children.

Factors predictive of initiations across sex lines were age related and behaviors reflective of social maturity. However, factors predictive of initiations across SES lines were not age related but rather behaviors reflective of social awareness and social skill competency.

CHAPTER FIVE

DISCUSSION, SUMMARY, AND IMPLICATIONS

Introduction

The primary objective of this research study was to investigate the effects of supplemental parent and classroom programs on the self concept, heterogeneity of friendship choices and associations, sociometric status, and heterogeneous peer group involvement of Day Care 3 1/2 - 5 year olds, and to note if these potential differences are related to the Sex or social economic group membership of the children.

In order to accomplish this objective, the operationalization of a variety of concepts was necessary. The resultant instrumentation and data gathering procedures offered an excellent opportunity to investigate the interrelationships between self concept and social interaction variables, and among various heterogeneity variables that were designed to reflect inter-group orientations and attitudes. Preliminary analyses of these interrelationships were implemented to be included in this report. A later section of this chapter will be devoted to exploring these findings. The primary thrust of this chapter, however, will be devoted to the question of the effects of the intervention programs on the dependent measures, and how these results can be applied for the practitioner.

SUMMARY OF EFFECTS OF TREATMENTS

T_1 Supplemental Classroom Activities

The supplemental classroom activities that were implemented in the centers in T_1 were those that make up the M.S.U. Sociodramatic Play Curriculum. This is a social interaction curriculum that emphasizes and reinforces the development of specific social skills. The teacher sets the stage for positive social interaction by selecting specific props and equipment and specific types and numbers of children, and then orchestrates the interaction by playing specific roles of modeling, re-directing, and reinforcing appropriate behaviors. By doing this in the context of dramatic play themes, the child is progressively introduced into more and more complex social roles requiring increased social interaction skills.

The effects of this treatment were consistent with the results of an earlier evaluation of a more comprehensive two-year socialization intervention program, of which the Sociodramatic Play program was a part (Boger and Cunningham, 1974). Children receiving the classroom programs were gregarious, both in the classroom and play setting. During the classroom observation, these children played more cooperatively (at level 5 or 6 of social behavior), more frequently, and with the largest numbers of children.

These children were extremely responsive to other peers. T_1 children had the highest Acceptances of Responses and Responsivity scores. They also initiated following responses more than other groups at all levels of play, but especially at associative and cooperative levels of social behavior, thus facilitating interaction.

T_1 children exerted the most environmental control, exhibiting proportionately more influence over other children, relative to not influencing others, than other groups. These instances of influence were more often nonverbal, while control children exerted influence more through the verbal mode. At this age, one may expect interactions to be more verbal, but the environmental control variable denotes interaction as behavior effecting responses in others. In such a context, it would be easier to effect a response if one initiates through the verbal mode. The fact that T_1 children exhibited the highest environmental control scores, and in the nonverbal mode, suggests a high level of skill in initiating peer interactions.

Looking at the affective variables, T_1 children expressed themselves with the most positive voice tone, and had high emotionality scores. These children exhibited a positive, confident milieu in their social exchange.

Although T_1 children on the whole did not show an increase over controls in their self concept scores, one group of children did exhibit extremely high self scores. These were the middle SES boys. Perhaps since these children would have many of the prerequisite skills needed for successfull peer interaction, the impact of this program in supporting boys' participation in sociodramatic play activities was reflected in increased self concept scores. These activities were not as unique for girls, who would already be engaging in dramatic play. In fact, for girls, increased male involvement may be equalizing their traditional dominance of play in this area of the classroom and therefore impact negatively on their self concepts.

Low SES boys, on the other hand, may need a longer period of time to enable this treatment to impact on self esteem. Many of their social behaviors may be more extensively reshaped by the specific behaviors being reinforced in this program, thus further differentiating their self scores from their middle SES counterparts. The fact that their pre- to posttest scores did show an increase over the period of the intervention provides evidence that they did benefit from the program.

On the less positive side, these T_1 children were least heterogeneous in regard to being chosen as playmates by opposite sex peers. In fact, it almost appears as if children in this treatment became more aware of sex differences.

In summary, children receiving the supplemental classroom activities exhibited highly interactive, gregarious play. They were extremely accepting in their responses to others, and facilitated social interactions at more involved levels of play. They had the ability to influence others, often through nonverbal means, and expressed positive affect in their verbalizations and in their general emotionality.

T_2 Supplemental Parent Programs

T_2 included centers that provided a supplemental parent education program, Parents are Teachers Too. This program consisted of a series of 12 weekly parent sessions, where parents and teachers worked together in an informal manner, discussing child development topics, making play materials for the parents to use in specific activities with their children at home, and interfacing home activities with programs of the center. The goal of this program was to increase positive parent-child and parent-teacher interactions, and to aid parents in enhancing their role as "teacher" of their children.

As this was the first evaluation of the Parents are Teachers Too program's impact on the social interaction skills of children, the child behaviors expected to reflect positive interactions with parents were those more affective variables that w directly influence the child's peer interactions through improved feelings about self. These expectations were fulfilled.

Children in this treatment displayed autonomous, independent, emotionally positive play behavior. This treatment affected the self concept scores of low SES children in particular. This is a noteworthy accomplishment, as low SES children possessed significantly poorer self concepts than mid-SES children initially. Although a significant Treatment x Sex x SES interaction was evidenced on the self concept variables, both males and females in the low SES T_2 group had the highest adjusted post self concept scores. Mid-SES children in this treatment condition had moderately high scores, but not as high as males in the classroom programs or females in both programs.

Children receiving the parent program treatment exhibited the least amount of adult dependency during the classroom observations. They also had the highest autonomy scores of all other groups and expressed more positive emotions in the play setting as reflected in emotionality scores.

Children in centers offering the parent program were more heterogeneous in sociometric status in respect to being chosen as playmates by opposite sex peers, than controls, but T_3 (Both programs) children were the most heterogeneous.

Along with being very autonomous in their peer interactions, these children were also very responsive to others' initiations, and had a high proportion of acceptances to rejections of responses. Although they had low initiation scores, they did facilitate interactions, initiating in response to peer overtures. Along with T_1 (classroom programs) children, T_2 (parent programs) children exerted influence through the nonverbal mode more than controls or T_3 (both programs) children, who were more verbal. On the other hand, T_2 exerted the least environmental control or influence over others, and played at associative or cooperative levels of play less than other groups of children.

In general, these children had much more positive self concepts, especially low SES children, and exhibited markedly more positive affect in their play behavior. Being more autonomous and less dependent on adults, these children exhibited confident, responsive play behavior with peers. The effects of increased parental involvement in the educational process on affective-social behavior was most evident and clearly positive.

T_3 Both Programs

The treatment condition offering both programs were centers that implemented both the classroom curriculum and parent education program. As this was a considerable feat for any center to mobilize, the researchers were skeptical that positive results would be noted in such a short period of time. However, in spite of implementation difficulties, the children in these centers exhibited the most gregarious, heterogeneous behavior of all.

In comparison both to the control group and the individual programmatic treatments, T_3 (both programs) children were the most heterogeneous. They exhibited the highest Heterogeneity of Status in regard to being chosen as playmates by opposite sex and SES peers, initiated to opposite sex peers more than other groups, and conveyed the least differentiation in their voice tone when interacting with opposite SES peers compared to undifferentiated peers.

Mid-SES females within this treatment had high self concept scores and high mother referent scores. Although mid-SES females may have experienced decreased dominance in the sociodramatic play treatment that may explain low self concept scores, the increased parental attention and reinforcement of play behavior in this conbined treatment may have compensated for any depressing effects new interaction patterns in the classrooms may have caused. Thus, mid-SES females in T_3 exhibited high self concept scores. T_3 children initiated relatively more than others in the play setting and also exerted high degrees of influence over others. However, in contrast, they played at less interactive play, as reflected in duration scores. They verbalized more than other groups, displaying extremely high verbalization scores. These children were also very gregarious, playing with large numbers of children.

In summary, children in centers offering both classroom and parent programs exhibited the most heterogeneous behavior, behavior suggestive of positive attitudes toward the opposite sex and SES. Although these children did not exhibit the same level of development of social interaction skills as the T_1 children, nor the self confidence of the T_2 children, they did exhibit socially sensitive, mature play. Their heterogeneous, gregarious behaviors reflected social competency and open attitudes toward peers.

T_4 Control

Children in control centers, where no supplemental programs were implemented, exhibited the highest fantasy verbalization scores. They also had moderately high initiative and responsivity scores, and were superior in the heterogeneity of their initiations to children of the opposite SES. On the other hand, children in this treatment condition were the most dependent on adults during the classroom observation and exhibited the least amount of interactive play.

Although control children rarely scored highest on any variable, they did score in the moderate range of values frequently. On the other hand, even these moderate scores must be interpreted with caution, as this treatment condition consistently exhibited center nested in treatment effects. Because of this it is difficult to assume that the treatment means are very representative of control centers in general. In many cases, the means for one center were extremely low, and for the other moderately high, relative to other center means.

An analysis of the center clientele showed few differences between the two centers, although the organizational structure of the two centers was very different. C_1 within this treatment was a well-established, highly supported center, that had a high level of professionalism. In contrast, C_2 was relatively newly established, struggling to achieve parental and community support, and approached the minimum end on a scale of professionalism and staffing ratio.

SUMMARY

Sex and Social Class Differences

Few differences in children's play behavior could be attributed to sex or SES group membership. In general, males and low SES children were more heterogeneous across SES lines. Males more often than females chose peers from the opposite SES group on the Picture Board Sociometric, and interacted with unlike SES peers in the classroom. Low SES children more often chose mid-SES peers on the Picture Board Sociometric, and displayed more positive affect in their voices when interacting with mid-SES peers in the play setting than their mid-SES counterparts.

Females appeared to have better self concepts than males but displayed more adult dependency in the classroom.

The relationship between self concept and peer interaction

Among these 3 1/2/ to 5 year olds, self concept scores were negatively related to sociometric status and peer interaction variables. Children's self concept scores were positively related to autonomy and social leadership, but negatively related to peer interaction variables. Thus, the less confident, less autonomous children were the ones that were gregarious and facilitated interaction at more cooperative levels. Children with higher self concepts were less cooperative, more differentiated in the affect expressed in their play behavior when interacting with "unlike" SES and sex peers, and were less often chosen as playmates on a sociometric task. At this egocentric stage of development, children with higher self concepts are perhaps more demanding, less socially oriented than children with less well established feelings of self-esteem. The children with high self concepts may have the potential for positive peer interaction, as reflected in autonomy and social leadership scores, but do not have the same needs for social exchange as children with poorer self concepts.

Treatment effects on self concept

Prior to intervention, mid-SES children had higher self concepts than low SES children. Similar results occurred after treatment for all groups except for centers implementing parent programs. In these centers, the low SES children's self concept scores exceeded their mid-SES peers. This result supports earlier research (Boger, Kuipers, et al, 1969) indicating that increased parental interest in the child's activities is likely to make a more positive impact in low SES families (where the amount of parent-child interaction may be more depressed) than in mid-SES families.

In general, females had better self concepts than males. This trend was reversed in centers implementing classroom programs, and especially in the mid-SES group. The self concepts of males increased as they became more involved and successful in sociodramatic play activities. Females, however, traditionally dominating sociodramatic play, may have experienced a loss of ability to dominate in light of increased male involvement. These new social patterns may have had a depressing effect on females' self concepts. Any such negative effects were not evidenced in females receiving both programs. Increased parental and especially maternal attention and reinforcement may have compensated for any reduction in self esteem emannating from a loss of superiority in the classroom.

Relationships between demographic characteristics, play behavior, and the expression of inter-group attitudes prior to treatment

Increased age and experience in group care were related to increased heterogeneity across sex lines as reflected in sociometric status and initiation and response patterns to opposite sex peers. However, this was not the case with heterogeneity across SES lines. In fact, experience was negatively related to sociometric choices across SES lines.

Factors that predicted initiations across SES lines were social interaction variables. Although not a significant predictor, SES value was positively related to both Heterogeneity of SES choices and Heterogeneity of Control (SES), which were strong predictors of Heterogeneity of Initiations (SES). It appears that the low SES children or those who express poorer self concepts and are more gregarious and socially interactive reflect more heterogeneous behaviors toward opposite SES peers. The expression of Heterogeneity to opposite sex peers may be a function of age and maturity, but the expression of heterogeneity to opposite SES peers is more likely related to skill and success in interacting with peers.

Treatment effects on inter-group attitudes

Children in centers implementing both classroom and parent programs exhibited the most heterogeneous behavior on the post test measures. As attitudes toward opposite sex peers appeared more firmly engrained than attitudes toward opposite SES peers on the pretest data, it is interesting to note that children receiving input from both programs exhibited the highest Heterogeneity of Initiations (Sex) scores. Children receiving inputs from both programs were also more heterogeneous in regard to being chosen by opposite SES peers on the Picture Board Sociometric. They also displayed less negative affect in their physical behavior when interacting with unlike SES peers than any other group. All groups, however, displayed more negative affect in their voices and physical behavior when interacting with "unlike" peers than when interacting with undifferentiated peers. Thus, rudimentary forms of intergroup attitudes are already observable in young children 3 1/2 to 5 years old. Increased social skill competency along with positive socio-emotional states does aid in the expression of heterogeneous behaviors.

Treatment effects on child's social interaction behaviors

In conclusion, both supplemental classroom activities focusing directly on social interaction skills, and supplemental parent programs emphasizing parental support and reinforcement of the child's interaction with the physical and social environment can have positive effects on children's social attitudes and styles of interacting with peers.

The Parents are Teachers Too program impacted on the affective development of children as reflected in less adult dependency, increased self concepts, increased autonomy, and the display of gregarious responsive play behaviors.

The M.S.U. Sociodramatic Play program, on the other hand, enhanced specific social interaction skills. These children exhibited the most cooperative interactive play. They both responded to and initiated peer interaction at the highest levels of social behavior. Their ability to influence other peers suggested a high level of social skill development.

Children in centers implementing both programs reflected some of the behaviors representative of individual programs, but mainly reflected a gestalt that was greater than the effect of either treatment individually. At times, an interactive effect seemed to occur, parent inputs complementing the inputs from the classroom activities or compensating for the possibly negative effects of changes in the ongoing reinforcement patterns of peer-peer or teacher-peer interaction in the classroom.

These children were the most verbal, gregarious, and heterogeneous, i.e. they directed their interactions to a wide variety of peers, and successfully interacted with these peers as reflected in high environmental control scores. These are more complex behaviors that may require more intense exposure to adult models as well as the reinforcement and support that results from parent-teacher collaboration in responding to children's behaviors.

IMPLICATIONS

Early group experiences for children have traditionally been viewed as an arena for enhancing social development. Both the child's skills and motivational base, however, influence social interactions. Particular social attitudes and patterns of exchange result. It is important, therefore, that attention is paid not only to the child's affective needs but also to the specific social skills necessary for successful peer interaction. This is particularly pertinent if such interactions involve a demographically heterogeneous group of peers.

When parents become involved with teachers in a cooperative effort toward enhancing children's development in specific areas, it appears that four-year-old children become more autonomous and independent of adults. This more secure base may increase the potential for positive peer interaction, but does not necessarily result in an increase in cross-group interactions. Specific social skills and attitudes are needed in order for this to occur.

The supplemental classroom activities presented in this short intervention thrust were aimed at enhancing specific social skills prerequisite for cooperative peer interaction. Children receiving this treatment did indeed show an increase in their cooperative, facilitative play.

Increased skill in social exchange, however, did not change the direction of these interactions. These children were less heterogeneous than children in other treatments. The implication, therefore, is that enhancing social skills or affective states alone does not necessarily increase the range or nature of cross-group social interactions.

Those children expressing the most gregarious, heterogeneous behaviors were in the treatment condition receiving both the classroom and parent programs. The joint inputs from both the home environment and the classroom, including the support and modeling of the most significant adults in the child's life, did have an impact on the child's expression of heterogeneous play behavior. Replication studies and follow-through evaluations will be necessary, however, before these effects can be fully assessed.

Based on the pattern of the results of this study, it can be suggested that the model including "both programs" is most viable for increasing children's social awareness and the expedition of social interaction across demographic groups. By impacting on both the child's affective/motivational base and social skill competency, the stage is set for more cooperative and heterogeneous social interactions. Each program, however, has its individual merits in increasing positive peer interaction. Educators may do well to analyze the specific needs of their children in deciding on programmatic inputs. These data support the position that parent programs can increase children's positive affective state more effectively than classroom programs, but classroom programs seem to enhance social interaction skill development more efficiently.

Beyond Present Inputs

Because of limitations in the way children 3-5 years view the world, it is difficult to effect the way children choose to use their social skills (Boger, et. al. 1974). At this egocentric stage of development, one would expect children to be more concerned with their own needs and wants and to use their social skills to satisfy these needs. Thus children from 3-5 years of age find it difficult to suppress predispositions toward egocentric behavior for the sake of others. With secure feelings of self, specific skill competency, and an atmosphere where specific reinforcement and feedback is provided for the child to associate his behavior with the needs of others, more mature levels of social interaction may result.

Significant adults in children's lives can help children go beyond the skill acquisition level and focus additionally on how newly developed skills are applied. Although the Sociodramatic Play Curriculum includes these dimensions, short periods of implementation may only impact on basic skills. Bronfrenbrenner & others (Chilman, 1974) suggest that the total atmosphere of the home and school setting over a relatively long term are critical in fostering attitudes and patterns of interaction. Thus, the impact of the social atmosphere on the interactions that occur needs further investigation. Likewise subpopulational mix factors, as elements of the setting, need to be examined to determine how they contribute to social interaction and the expression of inter-group attitudes.

The relationships between pretest measures of self concept and peer interactions reported in this study also support an egocentric perspective for this period of development. The children with the poorer self concepts were the ones who displayed heterogeneous, gregarious play prior to intervention. The more autonomous, more self confident children were less often chosen as playmates by their peers and facilitated play at more cooperative levels less often. Thus, the most secure children were not the most socially oriented. Perhaps because of their security and egocentrism they did not have the same needs to cooperate and interact with other children as did the less secure children. A possible implication of these findings for the development of inter-group attitudes is that children with poorer self concepts are the ones more likely to interact across group lines. These interactions provide the experiences that contribute to later attitudes. Therefore, the nature of these experiences are critical in not only determining children's own feelings of worth but in determining the valence of their inter-group attitudes.

Further Research Needed:

This study is an initial attempt to both operationalize and intervene in the early development of inter-group attitudes. The results reveal observable differences in the inter-group attitudes of 3 1/2 to 5 year old children as reflected in their sociometric choices and play behavior. These attitudes are not only different for opposite sex vs. opposite SES peers, but males appear more heterogeneous than females. Sex orientations appear to be a function of maturity while SES orientations are more strongly related to social skill competency.

After the short term intervention, the heterogeneity scores of children in T_3 (both programs) were consistently higher across instruments than for other groups of children. This suggests that the combination of both supplemental classroom and parent programs can affect children's inter-group attitudes. These attitudes are reflected in sociometric status and peer group involvement scores.

As no other intervention precedent has been found in a review of the literature to collaborate these findings, replication studies are recommended. These results would suggest that it is in fact the combination of inputs from both teachers and parents, the most proximal and significant role models the child has at this age, that is the unique catalyst for change -- teachers providing the opportunity for reinforcement of specific play behavior, and parents, creating an atmosphere of increased interest and support in the child's activities. Future research should explore the content of these inputs more specifically. Methodology issues have traditionally been blocks to research in the area of the development of inter-group attitudes. The present study's use of sociometric tests and direct observational techniques has provided a useful and methodologically sound approach to assessing attitudes as reflected in behavior. With these and other advances in methodology, perhaps the complex interactions of a greater variety of environmental conditions and social behaviors and orientations can be assessed.

As suggested earlier, subpopulational mix factors as elements of the environment are also critical in in determining the kinds of experiences children can have. These experiences then influence the development of inter-group attitudes. Further research continues to be needed toward exploring aspects of socioeconomic and ethnic mix ratios in both the enrollment and staffing patterns of early childhood centers. The consistent center differences observed within the Parent program treatment could not be explained based on differences in the center management practices nor characteristics of the families, except for ethnicity. The impact on both children's and parent's behavior of being in a mixed versus homogeneous group is difficult to project at this point. The implications for the development of inter-group orientations and attitudes will not be known until investigations develop more definitive relationships between environmental conditions and social behaviors.

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APPENDIX A

Instrumental References

The Brown IDS Self-Concept Referents Test

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Instructions to Subjects and Administration Procedures

Introductory Guidelines:

- Never repeat an S's answer.
- Never repeat a question. Return to it at the end of the section.
- Never mix up sections.
- Ask the teacher before the test begins:
    - Does the child have a mother figure?
    - Should the child be given the picture at the end of the test?

Prior to photographing S, the following standard instruction should be given by E:

> "Well now, we're going to take a picture of you. Get ready . . . when I count to three, I'll snap your picture. Are you ready now? 1, 2, 3 . . ."

(Notice that no instruction to "smile," etc., has been included. This is purposefully left ambiguous in order to obtain a spontaneous facial expression, and is especially important since giving this instruction would clearly bias responses to the happy-sad item.)

After the exposure has been made, E waits fifteen seconds, then pulls the developed print from the developer compartment of the camera. During this time interval, E may speak with S to establish rapport. After fifteen seconds, E says to S:

> "Well, look at that (pointing to print). That's a picture of you. That's a picture of (child's name). This is really you because you are (child's name), and there you are in the picture." (E points to S's image in the photograph.)

To ascertain the effectiveness of the induction, E then asks S:

> "Can you tell me who that is in the picture?"

(E must obtain a response indicating that S knows that is is he in the photograph; either "That's me," or child states his own name or simply points to himself. If S does not recognize himself in the picture, E repeats induction above. E must obtain a statement from S indicating that he recognizes himself in the picture before proceeding further.)

E seats S at a table suitable in height and size for a young child, and places the photograph on the table top, directly forward of S and beneath his head in about the same position as a dinner plate is usually placed.

E should seat himself directly opposite S at the table and then say the following:

> "Now I'd like to ask you a few questions about (child's name)."

E then points to the picture, placing his own finger on it, and proceeds to ask the set of questions in the context of the "self" referent. E must restate the introductory stem before asking each question and must point to the photograph each time he asks a question.

> "Now can you tell me, is (child's name) happy or sad?"

E proceeds through all items in the "self" referent in this manner. It is important that E explicitly point to the picture before asking each question, thereby repeatedly directing S's gaze and attention to it. It is also important to continually restate the question stem in the objective case: "Is (child's name) happy or sad?" This procedure establishes a set in which the child is induced to "stand back from himself," and to gain a perspective of himself as an "object" in the photograph. This should also assist S to assume the role of another toward himself.

After responding to all items on the "self" referent, the "mother" referent is introduced by E:

> "Now that was very good, (child's name). I'd like to ask you a few more questions. This time I'd like to ask you a few questions about (child's name)'s mother. Can you tell me . . . Does (child's name)'s mother think that (child's name) is happy or sad?"

E proceeds through the entire set of items in the "mother" referent context. Again E must point to the photograph and repeat the appropriate stem before asking each question. The fourteen items asked under the "mother" referent are identical to those asked under all other referents. Only the referent itself is to be varied.

Upon completion of the two referents ("self" and "mother"), the examination is terminated. E should thank S warmly and bring him back to his room. (If cleared through the teacher, E can give S the photograph and tell him he can keep it and show it to his friends and teacher if he wishes to.)

Name ______________________ Child's Code No. ______________________

Center ______________________ Date ______________________

Class ______________________ Time of Day ______________________

Examiner ______________________

Scoring Sheet for Brown -- IDS Self-Concept Reference Test

Example of question format: 1. Is Johnny Gallagher happy or sad?

2. Does Johnny Gallagher's mother think Johnny Gallagher is happy or sad?

Item	Self Score*	Mother Score
1. Happy-sad	1, 0	1, 0
2. Clean-dirty	1, 0	1, 0
3. Good looking-ugly	1, 0	1, 0
4. Likes to play with other kids-doesn't like to play with other kids	1, 0	1, 0
5. Likes to have own things-likes to have other kids' things	1, 0	1, 0
6. Good-bad	1, 0	1, 0
7. Likes to talk a lot-doesn't like to talk a lot	1, 0	1, 0
8. Smart-stupid	1, 0	1, 0
9. Scared of a lot of things-not scared of a lot of things	0, 1	0, 1
10. Scared of a lot of people-not scared of a lot of people	0, 1	0, 1
11. Likes the way clothes look-doesn't like the way clothes look	1, 0	1, 0
12. Strong-weak	1, 0	1, 0
13. Healthy-sick	1, 0	1, 0
14. Likes the way his face looks- doesn't like the way his face looks	1, 0	1, 0

*Note: Score values parallel order in which adjectives are presented.

Classroom Socio-Observations

Jo Lynn Cunningham
Michigan State University

Classroom Socio-Observation

The classroom socio-observational technique was developed to assess the social involvement and play activity of children in the classroom setting. It was developed by Jo Lynn Cunningham and Tito Reyes, Family and Child Study Center, Michigan State University.[1, 2] The present procedures are an adaptation of the original instrument.[3]

General Procedures

The children will be grouped at the time of the observation in order to establish balanced groups of 12 children that include: 3 Low SES Boys, 3 Mid SES Boys, 3 Low SES Girls, 3 Mid SES Girls. Additional groups of 12 children each will be formed until all of the children in the sample are observed. Children may be included in more than one group in order to establish balanced groupings.

Three (3) consecutive observations (one set) are made near the beginning of the free play period and another set of three (3) observations are made toward the end of the period. Approximately 10 minutes should lapse between sets of observations.

---

[1] Cunningham, J. L., and Reyes, R. F. The sociometry of preschool children. Unpublished paper, Michigan State University, 1969.

[2] Special thanks are given to Kristin Anderson for her help with the preliminary testing of this technique.

[3] The present adapted version was developed by Mary Andrews, Institute for Family and Child Study, Michigan State University, 1973.

The setting for the observations will be a classroom that includes a variety of activities for free play (i.e. blocks, house corner, manipulative toys, etc.). This setting should be familiar to all of the children. One (1) teacher will be present to supervise the children during the observation. Her interaction with the children should be minimal.

Name tags or a number or letter code should be placed on each child (taped or pinned) prior to the observation. Such tags will aid the examiner in identifying the children.

Form

The form used for recording observations is a drawing of the floor plan of preschool classroom(s) with major play areas indicated. It is suggested that a list of all children in the class with their identifying code letters be attached.

Recording Observations

For each observation, a systematic recording is made of the play location and involvement of each child. Start at one end of the room and record each individual as quickly as possible.

Each child must be recorded once and only once. Therefore, if a child moves to another group after an observation is recorded of his activity, he is not recorded again, even though the other children in the new group are recorded if they have not been previously observed.

As soon as the entire class has been recorded and checked, proceed with the second and then third in the set of three consecutive observations.

Codes

The recording of each item is as follows:

AREA

Major activity areas are indicated on the observation form.

INDIVIDUAL

A...N = Subjects (unique identifying letters are assigned to each child)

X = Teacher

Y = Other adult

PLAY INVOLVEMENT

1 = Unoccupied behavior: The child apparently is not playing at all, at least not in the usual sense, but occupies himself with watching anything which happens to of momentary interest. When there is nothing exciting taking place, he plays with his own body, gets on and off chairs, just stands around, follows the teacher, or sits in one spot glancing around the room.

2 = Solitary Play: The child plays alone and independently with toys that are different from those used by the children within speaking distance and makes no effort to get close to or speak to the other children. His interest is centered upon his own activity, and he pursues it without reference to what others are doing.

3 = Onlooker Behavior; The child spends most of his time watching the others play. He often talks to the playing children, asks questions, or gives suggestions, but does not enter into the play himself. He stands or sits within speaking distance of the group so he can see and hear all that is taking place. Thus, he differs from the unoccupied child, who notices anything that happens to be exciting and is not especially interested in groups of children.

4 = Parallel Play: The child plays independently, but the activity he chooses naturally brings him among other children. He plays with toys which are like those which the children around him are using, but he plays with toys as he sees fit, without trying to influence the activity of the children near him. Thus, he plays beside, rather than with, other children. This activity is characterized by physical proximity and similarity of activity with reference to other children.

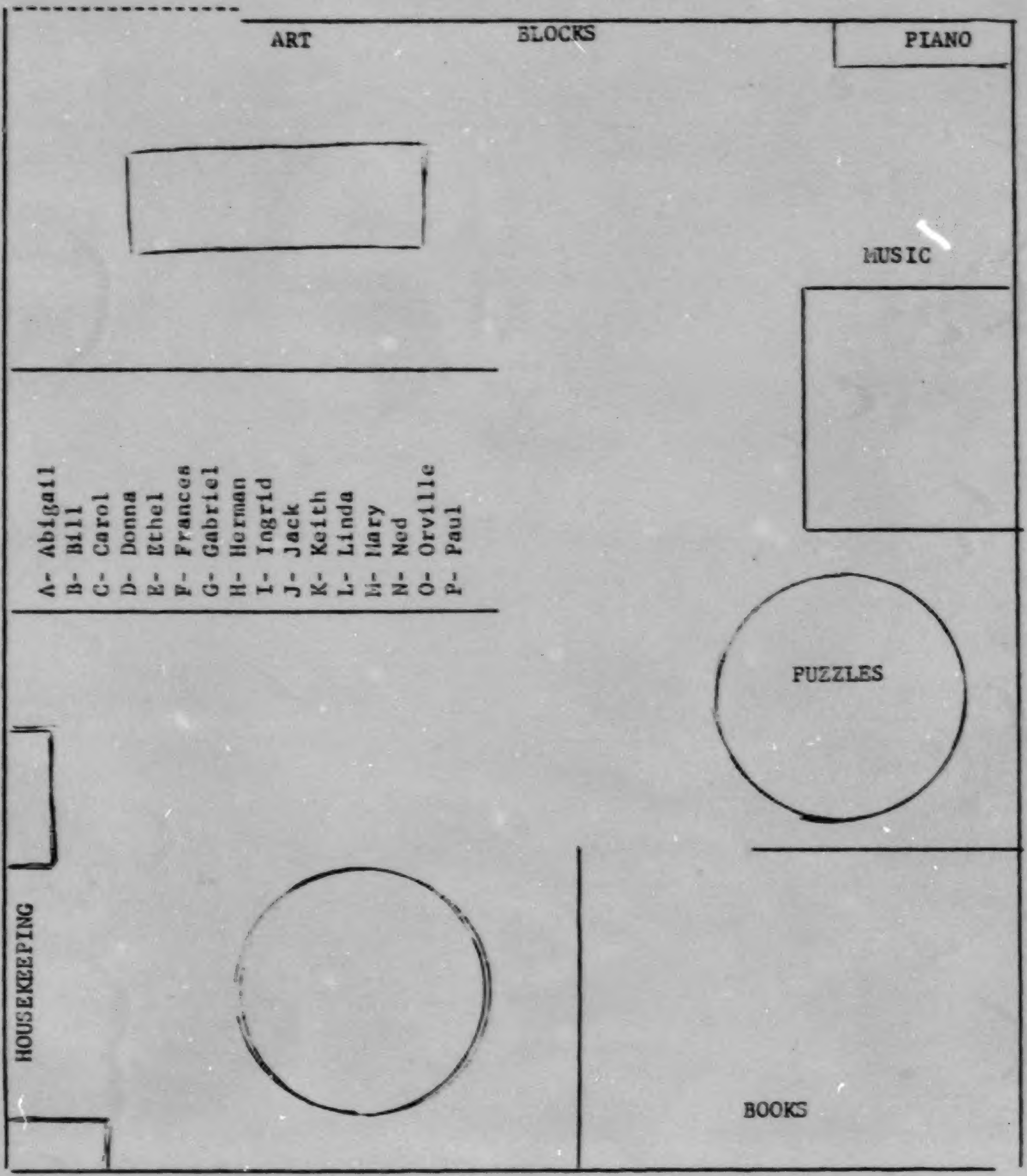
5 = Associative Play: The child plays with other children. They may be borrowing and lending play materials or following one another with trains and wagons. There are mild attempts to control which children may or may not play in the group. All engage in similar, if not identical, activity. There is no division of labor and no organization of activity. Each child acts as he wishes and does not subordinate his interest to the group. There is interaction between children, but no common goal.

6 = Cooperative Play: The child plays within a group that is organized for the purpose of making some material projuct, of striving to attain some competitive goal, of dramatizing situations of adult or group life, or of playing formal games. There is a marked sense of belonging or not belonging to the group. The control of the group situation is in the hands of one or two members who direct the activity of others. The goal and the method of attaining it necessitate a division of labor, the taking of different roles by various group members, and the organization of activity so that the efforts of one child are supplemented by those of another. The critical distinction is the goal-directedness of the group.

CLASSROOM SOCIO-OBSERVATION

CLASS ______________________ DATE ________________

OBSERVER ______________________ Time ________________


ART
BLOCKS
PIANO
MUSIC
A- Abigail
B- Bill
C- Carol
D- Donna
E- Ethel
F- Frances
G- Gabriel
H- Herman
I- Ingrid
J- Jack
K- Keith
L- Linda
M- Mary
N- Ned
O- Orville
P- Paul
PUZZLES
HOUSEKEEPING
BOOKS

Play Situation-Picture Board Sociometric

Robert P. Boger
Michigan State University

PLAY SITUATION-PICTURE BOARD SOCIOMETRIC TECHNIQUE*

Each child is photographed in a front pose of head and shoulders. The child is wearing a name tag with first name and initial. These photographs should be taken of the entire class just prior to gathering the Sociometric data. The pictures of the children are placed on a fiberboard (approximately 2 ft. by 2 ft.) in two rows of four photos, one row of five pictures, and equally spaced. The board is positioned such that it stands alone or in a near-vertical position on a child-size table where S and E sit.

The total sample of eligible children from the center are divided into groups based on sex and SES: Group 1 - male low SES
2 - male med. SES
3 - female low SES
4 - female med. SES

A random assortment of three pictures from each group will be placed on the board prior to the testing session. The S's picture will be added to the existing 12 pictures. If the S's picture was one of the original 12, an additional picture from the same sex/SES grouping will be added to the board for a total of 13 pictures.

To facilitate this random selection process for each S, (N) lists of 12 code numbers each will be formulated ahead of time. The code numbers will correspond to subject class code numbers that are printed on the back of each picture.

This procedure is necessary in order to provide each subject with a field of choice that maintains equal probability that a like or different sex and SES peer win be chosen. The placement of the pictures on the board will be random or without pattern.

---

*This procedure was adapted from the instrument developed by Robert P. Boger, Head Start Evaluation and Research Center, Michigan State University, 1967.

It is assumed that each E is familiar with the children and should have spent enough time with the class roster and pictures to be able to help the S identify each photo on the board without referring to class lists or other aids. (Name tags may help E identify the children) This familiarization procedure in which the E discusses each photo with the S is extremely important and should be done systematically in such a way as to not inadvertently leave certain childrens' names or pictures out of the familiarization procedure.

When the "choice-session" begins E places the board so that it is directly in front of S (the bottom of the board resting on a low-level table with the center of the board approximately 15" from the child).

1. S's are first asked to find their own picture. S's should then, or after a little prompting, point to other children or name other children to whose picture E then can point. E controls pointing or naming only to the extent of making sure that all pictures are pointed at and named before requesting any choices.

2. Following this, S is told the following:

"We're going to play a game using some pictures. Here are some pictures of things to play with, I want you to look at each one and pick out those you would like to play with the most."

E then goes through the six dual-play pictures one at a time naming and describing each toy or situation. Encourage the child to enter in. Then say:

"Which one would you like to play with most? Let the child spread them out on the floor or manipulate them in any other way he wishes; but encourage him to peruse the pictures and select one. Then say:

"Which others would you like to play with?" Continue this until he has selected three of five pictures. (If a child refuses to choose three, go ahead with the sociometric choice items with the pictures he has chosen and then come back to the selective process, spreading the remaining pictures out on the table or the floor and again encouraging S to choose the remaining play situations.)

3. Take the selected situations and in the order of choice (i.e., first choice first) say:

"Now here is how we play the rest of the game. You said you would like to play with these, so we'll put your picture here."

E takes S's picture from the choice board and attaches it to the picture. (For example, if the picture is of two ponies, then S's photograph would be placed above one.) Then say:

"Who would you like to have play with you?" If the child responds completely, say no more. If the child responds by pointing or by name, encourage him to find and put the picture on the play card as you did his. If he does not respond at all, say: "Look here at the pictures--who would you like to play with you on____________?" (Fill in the name of the play situation: i.e., the ponies).

After the child's selection on each play situation the selected peer's picture and the S's picture are returned to the board prior to the next selection.

If the S names more than one child or points to two photos, the E should ask the S which peer he would most like to play with. Only a single choice per play situation is acceptable.

If the S responds with a child's name whose picture is not present on the choice board, the E should say: "There are other children that you would like to play with. But, look at the pictures of these children; who would you like to have play with you?"

RECORDING AND SCORING

The following instructions apply to the attached record form:

1. Place only those pictures on the choice board that are listed on the recording form. The pictures should be randomly mixed so that the original groupings are indistinguishable.

2. The six play situation cards are listed on the recording form. Place the number one after the play situation chosen first, two after the second choice and three after the third choice.

3. Each child's photograph should be coded with his class code number (on the reverse side) at the time the pictures are taken. The peer choice code can then be recorded in each case by turning over the photo and copying the number in the appropriate blank.

4. Voluntary versus non-voluntary responses will be recorded according to the following standard. If a child responds to a sociometric question (in the play situation section, this would include the statement, "look here at the pictures, etc.") verbally, by pointing or by selecting a photograph voluntarily without further probing or urging, his response is scored as voluntary. Any response gained through further prompting or probing is scored as "urged." Please check one or the other for each sociometric question posed. When more than one photo is chosen and the S is requested to choose only one, this may be a voluntary response if S complies immediately.

PLAY SITUATION -- PICTURE BOARD

SOCIOMETRIC

Record Form

Child's Name______________________ Child's Code No.__________

Center______________________ Date__________

Class______________________ Time__________

Examiner______________________

Play Situation (Number 1,2,3)	Peer Choice	Voluntary Response or Urged Response (check one)	
0 Dolls________	____	_____	_____
I Trucks________	____	_____	_____
II Sandbox________	____	_____	_____
III Horses________	____	_____	_____
IV Dual Swing________	____	_____	_____
V Teeter Totter			

Field of Choice
(List of children present on the picture-board)

_____ _____ _____ _____

_____ _____ _____ _____

_____ _____ _____ _____

(Revised)

Observation of Socialization Behavior

Robert P. Boger
Jo Lynn Cunningham
Mary Andrews

Michigan State University

(Revised)

Observation of Socialization Behavior

The present Instrument is an adapted version of the original Observation of Socialization Behavior (OSB), an observational rating technique for videotape observation. The original version was developed by Robert P. Boger and Jo Lynn Cunningham, Head Start Research Center, Michigan State University.[1] The present version was developed by Jo Lynn Cunningham, Robert P. Boger and Mary Andrews, Institute for Family and Child Study, Michigan State University.

General Procedure

This observational rating was designed for use in free-play (unstructured) situations only. It may be used either with or without a teacher present in the situation.

Behavioral ratings of an individual child are made each 20 seconds during the observation. Each frame (representing 20 seconds) is rated as an individual unit. Therefore, the child's behavior at a previous time should not influence the ratings made for any subsequent interval, except insofar as the context of a preceding interval must be considered for adequate interpretation of a unit of behavior (primarily verbalization or inferred motivation).

Rating of videotaped situations is facilitated if the videotape unit has an automatic signal tone attachment for recording purposes. Such an attachment may be used to provide an audio signal at the designated 20-second intervals.

---

[1] Boger, R. P., and Cunningham, J. L. Observation of Socialization Behavior. Unpublished instrument description, Head Start Research Center, Michigan State University, 1969.

FORM

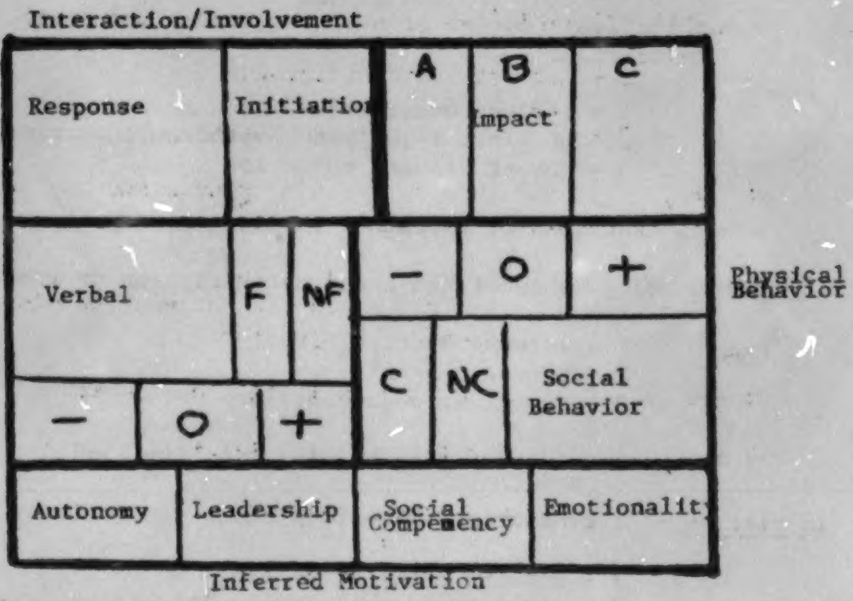
The form developed for use with the videotaped interaction situations contain two rating frames per 20-second interval. The first frame must be completed as a time sampling of behavior at the signal tone each 20 seconds. The second frame is only completed if no peer interaction occurs in the first frame but subsequently occurs during the 20-second interval. This second frame is therefore reserved for the first observed peer interaction each 20 seconds. If a level 5 or 6 of social behavior with peers occurred during the first frame - no further observational rating is required during the 20 second interval (frame 2 will be crossed out). Likewise if no peer interaction occurs during the interval, the second frame will remain blank (crossed out).

The information included in each frame consists of:

1. Interaction
    - Responses
    - Initiations
2. Object of interaction
3. Level of involvement
4. Peer impact
5. Verbalization
6. Verbal fantasy
7. Voice tone
8. Physical behavior
9. Physical tone
10. Social behavior
11. Autonomy
12. Leadership
13. Social Competency
14. Emotionality

The format for recording an observational segment is shown in Figure A.

Figure A


Interaction/Involvement
Response
Initiation
A
B
C
Impact
Verbal
F
NF
−
0
+
Physical Behavior
C
NC
Social Behavior
−
0
+
Autonomy
Leadership
Social Compemency
Emotionality
Inferred Motivation

CODES

The categories and descriptions for each code follows:

Interaction and Involvement

Response

- A - acceptance: covert or overt awareness and acceptance of another's initiation.
    - 1 - intense overt acceptance
    - 2 - moderate acceptance
    - 3 - covert or weak acceptance
- R - rejection: covert or overt awareness and rejection of another's initiation.
    - 1 - intense overt rejection
    - 2 - moderate rejection - withdrawal submission
    - 3 - covert or weak rejection
- N - no awareness of another's initiation, no acknowledgement
- O - ongoing behavior (no apparent initiation or responses to initiations
    - 1 - intense overt behavior
    - 2 - moderate behavior
    - 3 - covert or weak behavior
- X - behavioral transition - initiation imminent

Initiation - introduction of self or change in activity prompted by self

- 1 - intense overt initiation
- 2 - moderate (normal level) initiation
- 3 - passive initiation, covert or tentative attempt to initiate.

Object of Interaction (more than one object can be recorded)

- A-N = letter code of each peer with whom S is involved (two peers may be recorded)
- G = group involvement with all three other peers: initiation or response not directed to any special individuals
- T = adult
- M = materials. The objects provided specifically for play purposes (including personal articles of apparel on self)
- E = environment, objects not intended for play but present in the setting (walls, light switches, gate, door, etc.)

Impact codes: The consequence of S's behavior as reflected in the behavior of other peers.

Impact recorded separately for each peer.

A - acceptance of S's behavior

1 - intense overt acceptance
2 - moderate (normal level) of acceptance
3 - covert or hesitant acceptance

N - no impact, no acknowledgement or awareness of S's behavior

R - rejection of S's behavior

1 - intense overt rejection
2 - moderate (normal level) of rejection
3 - covert, mild, or hesitant rejection

Verbalizations

SL = shows solidarity: raises another's status; gives help or reward

TR = Tension release: jokes, laughs: squeals, shows satisfaction

AG = Agrees: shows passive acceptance: understands, concurs; compiles

SU = Gives suggestions or directions, implies autonomy for others

OP - Gives opinion, evaluation, or analyses: expresses feeling or wish.

OR = Gives orientation or information: repeats, clarifies, confirms

AR = Asks for orientation: information, repetition, confirmation

AP = Asks of opinion, evaluation, analyses, expressions of feelings

AS = Asks for suggestions, direction, possible ways of action.

DS = Disagrees: shows passive rejection or formality: withholds help

ST = Shows tension: asks for help: withdraws "out of field" (swearing)

AN = Antagonism: deflates other's status: defends or asserts self: name calling: (swearing at someone)

MM = Mumbling (unintelligible)

X = No verbalization

Fantasy

F = Fantasy verbalization

NF = Nonfantasy verbalization

Voice Tone

+ = positive affect conveyed by voice tone

0 = neutral voice tone: no affect conveyed

- = negative affect conveyed by voice tone

Social Behavior

1 = Unoccupied behavior: The child apparently is not playing at all, at least not in the usual sense, but occupies himself with watching anything which happens to be of momentary interest. When there is nothing exciting taking place, he plays with his own body, gets on and off chairs, just stands around, follows the teacher, or sits in one spot glancing around the room.

2 = Solitary play: The child plays alone and independently with toys that are different from those used by the children within speaking distance and makes no effort to get close to or speak to the other children. His interest is centered upon his own activity, and he pursues it without reference to what others are doing.

3 = Onlooker behavior: The child spends most of his time watching the others play. He often talks to the playing children, asks questions, or gives suggestions, but does not enter into the play himself. He stands or sits within speaking distance of the group so he can see and hear all that is taking place. Thus, he differs from the unoccupied child, who notices anything that happens to be exciting and is not especially interested in groups of children.

4 = Parallel play: The child plays independently, but the activity he chooses naturally brings him among other children. He plays with toys which are like those which the children around him are using, but he plays with toys as he sees fit, without trying to influence the activity of the children near him. Thus, he plays beside, rather than with, other children. This activity is characterized by physical proximity and similarity of activity with reference to other children.

5 = Associative play: The child plays with other children. They may be borrowing and lending play materials or following one another with trains and wagons. There are mild attempts to control which children may or may not play in the group. All are engaged in similar, if not identical, activity. There is no division of labor and no organization of activity. Each child acts as he wishes and does not subordinate his interest to the group. There is interaction between children, but no common goal.

6 = Cooperative play: The child plays within a group that is organized for the purpose of making some material product, of striving to attain some competitive goal, of dramatizing situations of adult or group life, or of playing formal games. There is a marked sense of belonging or not belonging to the group. The control of the group situation is in the hands of one or two members who direct the activity of others. The goal and the method of attaining it necessitates a division of labor, the taking of different roles by various group members, and the organization of activity so that the efforts of one child are supplemented by those of another. The critical distinction is the goal-directedness of the group.

Physical Behavior

Contact (coded in relation to the object of the interaction. Peer interaction takes precedence over involvement with materials or environment)

C = contact: physical contact between subject and object or another peer.

NC = No physical contact with other peers or objects

Behavioral tone

+ = behavior which is socially acceptable or positive in connotation. (holding hands, patting, sitting side by side)

0 = neutral motion: physical behavior which does not convey either positive or negative connotations. (building, running)

- = behavior which is not socially acceptable or is negative in connotation. (pushing, hitting)

Inferred Motivation: The following four codes are rated on a 5 point scale:

5	4	3	2	1
positive overt/intense	covert/mild	neutral	covert/mild	negative overt/intense

Autonomy (psychological)

self directed	5 4 3 2 1	
independent		dependent
patient		impatient
persistent		non-persistent
tolerant		vulnerable to frustration
integrated		submissive

Social Leadership

original activity	5 4 3 2 1	imitation
initiates to others		follows
dominant		compliant

Social Competency

other directed	5 4 3 2 1	self centered
friendly, open		withdrawn
empathetic		rejecting
helpful		aggressive
affectionate		disregards others
constructive		boasting
		attention-seeking
		jealous
		destructive

Emotionality

happy, confident	5 4 3 2 1	anxious
eager		fearful
		angry
		hesitant (rejecting)

Recording Observations

For each frame a code must be applied to each available space. If no verbalization or initiation is observable, an "X" is coded in that position. All other spaces require an observational interpretation of the behavior occurring. The only exception to this rule is the rare case in which the person being observed leaves the scene (is out of camera range). In such cases, "X" for the entire frame or any part thereof is permissible.

Coding of each category is done by writing in the appropriate code (for responses, level of involvement, object of interaction, impact, autonomy, leadership, social competence, emotionality, verbalization, social behavior) or by circling the appropriate code symbols (for fantasy, voice tone, physical behavior, and behavioral tone).

Frame 1 (required)

When the signal tone is heard marking a 20 second interval, the behavior occurring immediately after the tone is observed. All observations within a single frame refer to this one behavioral interaction. Frame 1 must be completed each 20 seconds for the entire play session.

Frame 2 (optional depending on interaction)

If Frame 1 does not contain a 5 or 6 level of social behavior, then prepare to record the first peer interaction that occurs in the 20 second interval.

Frame 2 is only completed if a peer interaction occurs during the interval, otherwise an 'X' is placed through the entire frame.

If a peer interaction occurs, record the behavior as a single interaction with all codes applying to that "bit" of interaction. (The verbalization, physical behavior, social behavior, inferred motivation and impact are all contingent on the interaction sequence).

Whether the interaction begins as a response or an initiation, it is the total sequence of interaction that is observed and rated.

R --------- I --------- Impact
O --------- I --------- Impact
X --------- I --------- Impact
R --------- X --------- Impact

Reliability

Interobserver reliability is established by two independent observers simultaneously recording the behaviors of the same child in the same intervals on their respective recording forms. Intraobserver reliability is established by a single observer rerating a previously observed tape.

Two methods of computing reliability are used, one based on total blanks and the other based on total recorded positions. Each type of reliability should be computed for the entire instrument and also for each separate scale. Minimum suggested reliability indices are given in Table B-1.

Points for figuring total instrument reliability are assigned as shown in Figure B-2. Procedures for computation of interobserver reliability are as follows:

Total Blanks

Count and evaluate the total number of possible codes, regardless of whether anything was recorded within that area for that time interval or not. This method credits the observers with agreements for those instances on which they agree that no recordable behavior occurred, i.e., both recorded an "X" for that category of that interval. Formulas used for figuring reliability by this method are as follows:

$$\text{\% reliability} = \frac{\text{Agreements (Number of points)}}{\text{Number of frames} \times 23}$$

Total Recorded Positions

Count and evaluate only those positions in which one or both observers recorded something other than "X". The formula for figuring reliability by this method is as follows:

$$\text{\% reliability} = \frac{\text{Agreements (Number of points)}}{\begin{array}{l}\text{Agreements plus disagreements} \\ \text{(Number of points possible for} \\ \text{positions in which either ob-} \\ \text{server recorded any code)}\end{array}}$$

TABLE B-1

Minimum Suggested Rater Reliability Indices
for Observation of Socialization Behavior

Method	Type of Reliability	
	Inter-	Intra-
	Entire Instrument	
Total Blanks	.85	.90
Total Recorded Positions	.65	.75
	Individual Scales	
Total Blanks	.80	.85
Total Recorded Positions	.60	.70

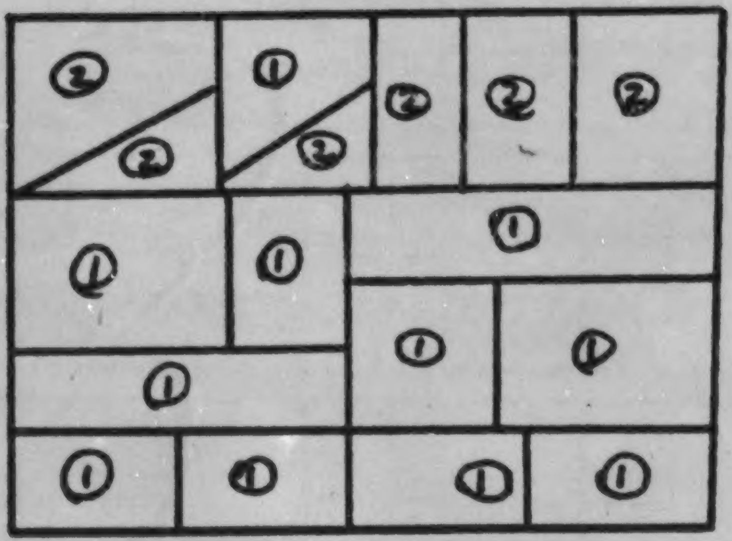
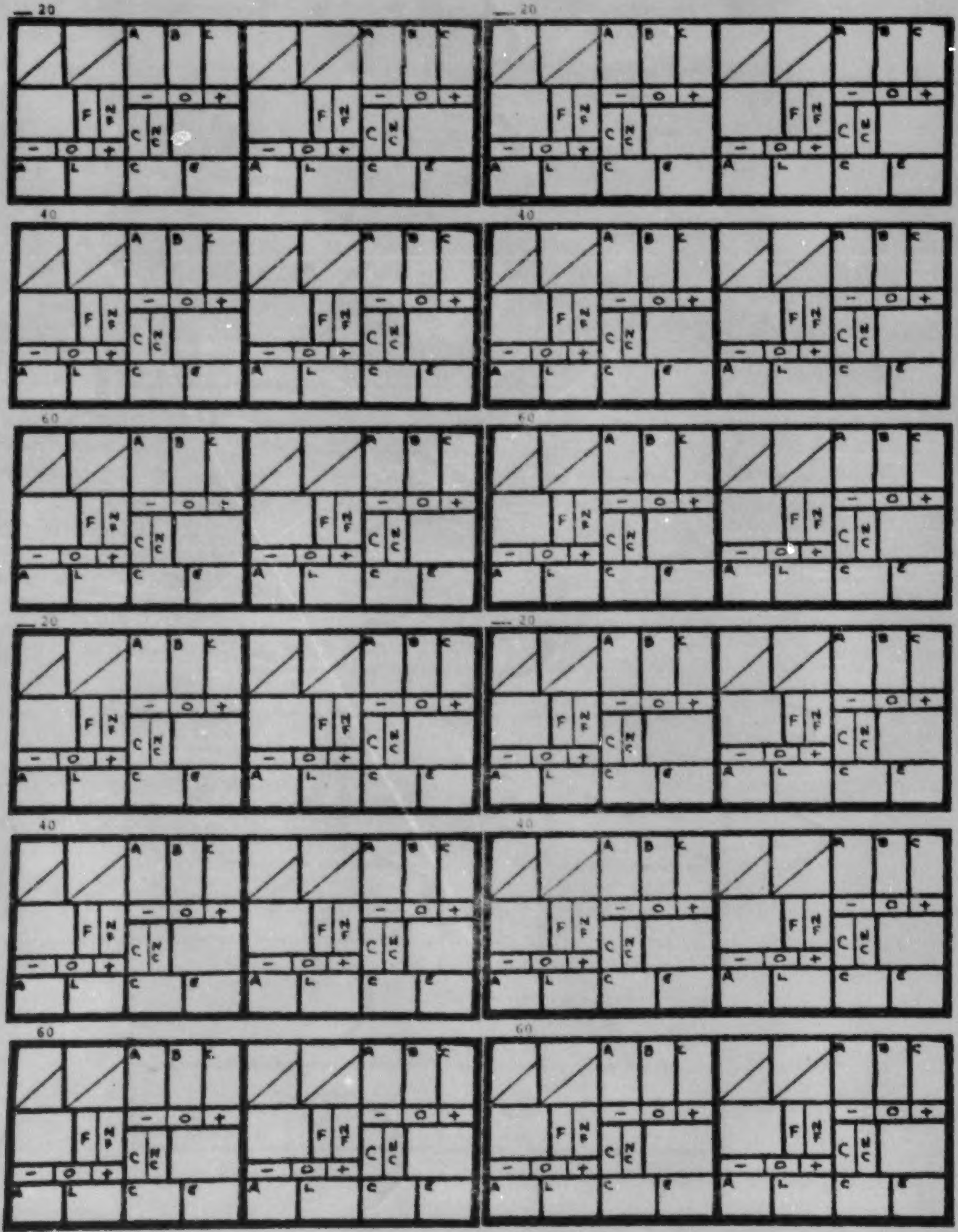


FIGURE B-2

Assignment of Points for OSB Rater Reliability

Peer A ____________________ Peer B ____________________ Peer C ____________________

Name ____________________ ID # ______________ Date __________ Rater ____________________



__ 20
40
60
__ 20
40
60
A B C
− 0 +
F NF
C NC
A L C E

Parent Permission and Information Sheets

INSTITUTE FOR FAMILY AND CHILD STUDY
MICHIGAN STATE UNIVERSITY

Project Agreement Form

I, the undersigned, as parent or guardian of ________________________________,

a child in attendance at the ________________________________ day care center,

by my signature agree:

(1) that my child may participate in the Social Development project approved and administered by the professional staff of the Institute for Family and Child Study at Michigan State University;

(2) that I understand that the Social Development project has been judged by the professional staff to be in no way harmful to the children involved and in no way an invasion of the privacy of the families;

(3) that I understand that participation in this program will not interfere with the regular program in which my child is enrolled and that no additional benefits or effects are guaranteed;

(4) that it is my understanding that each research project in which my child might be asked to participate will be explained to me and that I may withdraw my child from participation at any time if such involvement is unacceptable to me without in any way affecting his enrollment in the preschool program in which he is enrolled;

(5) that all results will be treated with strict confidence, that all individual children will remain anonymous in reporting any results, and that all results will be handled in a professional manner.

By my signature I indicate that the research has been explained to me in detail and that I understand that any further questions that I may have about the research project will be answered by the teacher, the research coordinator, or the director of the Institute for Family and Child Study.

Date: ____________________ Signed: ________________________________

Witness: ________________________________

Do Not Write Here:

_______________ Center

_______________ Class

_______________ Teacher

GENERAL INFORMATION SHEET

Child's Name_______________________ Sex_______ Male______ Female__________

Birthdate ________ ________ ________
Month Day Year

Ethnic Background
_______ Black
_______ White
_______ Biracial
_______ Chicano
_______ Indian
_______ Other

Date child started at this Center__________________

FAMILY INFORMATION

Family Status: Two parents together_______ Separated _______

Single parent_______ How many years has child lived in a one parent home? _______

Please list all brothers, sisters, or other children living in household:

First Name	Age	Sex	Relationship to child	Does this child attend school or day care Yes	No

Please list all other adults living in household:

Approximate Age	Sex	Number of years residing in household

Please fill in the following information about the child's father, stepfather or male in the household acting as a father figure. If no father figure is present, leave this section blank.

Father's Age:
_____ under 20
_____ 20-29
_____ 30-39
_____ 40-49
_____ over 50

Father's Educational background to present:
_____ less than 12 years of school
_____ less than 12 years - some occupational traini
_____ High School
_____ High School & some occupational training
_____ Some college
_____ College degree
_____ Advanced degree

Father's Present Occupation ______________________________

Employer ______________________________

If a student; Name of School and Major: ______________________________

____

Number of hours worked outside of the home per week __________

Please fill in the following information about the child's mother, stepmother or female in the household acting as a mother figure. If no mother figure is present, leave this section blank.

Mother's Age:
_____ under 20
_____ 20-29
_____ 30-39
_____ 40-49
_____ over 50

Mother's Educational Background to present:
_____ less than 12 years of school
_____ less than 12 years + some occupational training
_____ High School
_____ High School + some occupational training
_____ Some college
_____ College degree
_____ Advanced degree

Mother's Present Occupation ______________________________

Employer ______________________________

If a student; Name of School and Major: ______________________________

____

Number of hours worked outside of the home per week __________

Approximate FAMILY Income per week (take home pay of both parents - include both assistance and salaries):
_____ less than $50.
_____ $50.-$75.
_____ $76.-$100.
_____ $101-$125.
_____ $126.-$150.
_____ $151.-$175.
_____ $176.-$200.
_____ over $200.

Type of Family Dwelling: Single family house_______ Apartment_______
Duplex _______ Trailer _______ With Relatives_______

Type of Transportation to Center (usually): Walk_______ Family Car _______
Public Transport_____ Day Care Center Transport _______ With friend _______

Approximate time needed to travel from home to the center (circle one):

5 10 15 20 25 30 35 40 45 50 55 60 minutes.

CHILD'S SOCIAL EXPERIENCES

Present Day Care Enrollment:

1. How many hours per day does your child attend the center?____________
2. How many days per week does your child attend the center?____________
3. How many months per year will your child attend the center?__________

Past Day Care or Nursery School Experience:

1. How many months has your child been enrolled in Day Care for the full day before September 1, 1973?__________

2. How many months has your child been enrolled in Day Care for part of the day before September 1, 1973?__________

3. How many months has your child been enrolled in Day Care or Nursery School 2 or 3 days per week before September 1, 1973?_____________

4. How many months has your child been cared for in a home situation with a Sitter or Relative during the day before September 1, 1973?______

Does your child participate with other children in a group outside of School? Check ( ) those activities that he/she participates in.

_______Sunday School
_______YMCA
_______Lessons (swim, dance, music, etc.)
_______Story Hour
_______Recreation Programs
_______Other

The child meets in such groups as above________hour(s) per week.

Most of the child's playmates at home are:
_______brothers and sisters
_______other relatives
_______friends/neighbors

Most often the children that my child plays with at home are:
_______older
_______younger
_______agemates

When not at school my child spends approximately (circle one)

½ 1 1½ 2 3 4 5 6 7 8 hours playing with other children per weekday.

Day Care Center and Staff Information Sheets

MICHIGAN STATE UNIVERSITY

Institute for Family and Child Study

CENTER INFORMATION SHEET

Center Name ______________________________

Address ______________________________

Telephone ______________ Licensed Capacity ______________

Licensed by ______________________________

Total Number of Children Enrolled ______________

Number of Children enrolled full day 5 days/week ________
full day less than 5 days/week ________
part day ________

Number of Classrooms or Groups ________ Number of Classrooms included in Study ________

Age range of children in center ______ to ______

Racial composition of center ______ white ______ black ______ other

Percentage of children receiving ADC/assistance ______ % partial fees ______ %
full fees ______ %

Is Transportation Provided? ______ yes ______ no

If yes, average number of children transported per day ______
average number of children in Sample transported per day ______

Hours in poeration per day ______ AM to ______ PM
Is the center open on Weekends? ______ yes ______ no

Financial Support of Center (approx)

fees-tuition ______ %
Public Aide ______ %
Private Contributions ______ %
Other ______ %

Private Corporation ______
Public Nonprofit ______
Other ______

Number of Years in operation at this site ______.

Rate of turnover: percentage of children who leave and are replaced during the academic year ______

Percentage of children who attend for more than one year ______

STAFF INFORMATION

1. Number of Teachers employed________ Number of Aides employed___________
Number of Other support people________

2. Does the Director take on teaching responsibilities?
________daily full time
________daily-special activities or during teacher breaks
________substitute teaching occasionally

3. Are there written qualifications for hiring Directors, Teachers, or Aides?
______yes ________no If yes, or if established but not written, please briefly note basic qualifications for each position.

	Director	Teachers	Aides
Education			
Area of Training			
Experience			

4. Responsibilities of the staff:

Are written lesson plans required? _________yes ________no

Are lesson outlines required? ________yes _________no

Is a daily schedule followed?_________yes _________no

Is daily attendance recorded? ________yes _________no

Who sets up the play materials and gathers supplies for each day?_________

Who cleans up and sets up for the following day?_________________

Who plans the weekly schedule of activities?___________________

Who decides on the placement of children in groups or classes?____________

MICHIGAN STATE UNIVERSITY East Lansing, MI 48824

Institute for Family and Child Study Home Management House, Unit #2

Information about the staff member assigned to participate in the study:
Program assignment ______________________________

Name ____ Age _______________

Home Address ____

Telephone ____________________________ Social Security Number _______________

Educational Background: Level completed ______________________________________

Area of Interest ______________________________________

School attended ______________________________________

Number of Child Development courses or workshops taken _________________________

Number of Years Experience in Child related work ________________

Number of Years Experience in teaching preschool age children ___________________

Number of Years employed at this center ____________________ in what
capacity ________________________.

Age range of children presently teaching ___________________________

Daily Work Schedule at Center _____________AM to ___________PM.

Please describe any areas of child development or skills in working with children, that you feel that you would like to explore during the training sessions for your own personal development.

The Measurement of Social Status

Carson McGuire

and

George D. White

The University of Texas

THE MEASUREMENT OF SOCIAL STATUS*

Carson McGuire and George D. White
The University of Texas

Indices of social status and family life style are described in the present paper and directions are given for their calculation. An index is simply an empirical construct, derived by a scientist, to estimate values of a variable which is found in the real world. A status index approximates the "position" of a person with regard to one of the frames of reference people employ to place one another: (i) socio-economic level, (ii) social class participation and reputation, (iii) family or individual life style. (12, pp. 3-32; 5, pp. 199-200)

Human behavior tends to vary somewhat according to status. The relationship between "what one feels, thinks, and does" and "where one fits in," however, is not a direct one. Social roles are a functional aspect of status. Role behaviors appropriate to sex, age-grade, and social status are learned according to place and through time. And there are added learned differences among persons adhering to an ethnic group or a religious sect, or belonging to a color caste which is marked by visibility factors. As a consequence of role experiences according to status, systematic variations in cognitive discriminations, in cathectic attachments, and in value-apprehensions appear and persist unless changed to accompany a shift in status (social mobility). Hence discrepancies in status indicate potential differences in role behaviors and in psychological attributes.

An index is useful in placing subjects in subclasses of sample populations for various kinds of behavior research. Comparisons can be made among the several subsamples in an investigation to determine just what are the probably sources of variation in behavior. In broad terms, the sources of variation can be looked upon as biological discrepancies (age, sex), cultural patterns (life styles, ethnic gro social characteristics (status, role), and psychological attributes (e.g., motives attitudes). A number of studies completed at The University of Texas have demonstrated that status classifications are helpful in research (2,3,4,10,14) and that they clarify much that is involved in work with people.

Status indices, at least the ones described here, are based upon questions commonly asked by people who are seeking to "place" one another. Most persons indirectly "find out about" other people to approximate their social position befo interacting with them. Questions such as "What do you do?" "Where do you work?" "Where do you live?" "Where do you go to school?" and "What church do you go to?" are asked in many different ways. The queries usually are designed to fit people into one's status map (14) or system of reference groups (6. pp. 162-163) so as to anticipate how to act toward and about the other person.

Each index depends upon a combination of ratings from three or more scales. To employ an index only three steps are required. First, the individual or the "status parent" of the family to be placed is rated on each component scale. Sec the ratings are multiplied by appropriate weights (determined in previous studies) and the products are summed to secure a total index score. Third, a table for estimating status levels from total index scores is employed for an approximation of either probably social class or life style.

The index of social characteristics, or ISC, has been developed by Warner and his co-workers at Chicago (11,12). Modifications of the original index have been tested at Texas (2,3,10,14). The total index score usually depends upon ratings for four components: namely, (i) dwelling area, (ii) house type, (iii) occupation, and (iv) source of income. The first two components have to do with where and with whom a person or family chooses to live in the residential areas of a city (14) or a town (2). The last two have to do with socioeconomic status which is translated into social class participation and reputation. The index seems to supply a good estimate of social class position of an individual or family when the estimate can checked by interviewing (7,14) or by Warner's method of evaluated participation (12

In Texas, a good deal of work has been done with the standard ISC in a large city, Centex (6,7,14), and in a smaller community, Textown (2,7,8). The interview and rate the residential areas and to assess the range of dwelling units. Table I shows the standard form of the index. Components to be rated are described in the Appendixes to the paper. Some modifications of the original Warner ISC have been made as a consequence of research experience.

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*Research Paper in Human Development No. 3 (revised), Department of Educational Psychology, The University of Texas, March, 1955.

TABLE 1

INDEX OF STATUS CHARACTERISTICS--STANDARD FORM

A. . . Dwelling Area . . .	Rate 1 to 7 on DA scale . . .	Weight	-- x 2
H. . . House Type.	" 1 to 7 on HT scale . . .	"	-- x 3
C. . . Occupation.	" 1 to 7 on OC scale . . .	"	-- x 4
D. . . Source of Income. .	" 1 to 7 on SI scale . . .	"	-- x 4

Weights in a status index always add up to 12. Total index scores range from 12 to 84 when the components are summed. Estimates of status in terms of social class level are made by consulting Table IV.

A modified index of social status, or ISS, is useful when it is not possible to obtain ratings for dwellings area and house type. The index has been employed in studies where people come from a number of communities. Where checks have been made the ISS shows are fairly high correspondence to the ISC and status placements usually are corroborated by interview data. Table II shows the components and the weights employed. The new item is a rating of the education attained by the individual or by the "status parent" of the family to be classified.

TABLE II

INDEX OF SOCIAL STATUS -- SHORT FORM

O . . . Occupation	Rate 1 to 7 on OC scale . . .	Weight	-- x 5
S . . . Source of Income .	" 1 to 7 on SI scale . . .	"	-- x 4
E . . . Education	" 1 to 7 on ED scale . . .	"	-- x 3

The weights sum to 12 and the total index scores can range from 12 (high) to 84 (102) when the component scores are summed. Estimates of status in terms of social class participation and reputation are made by consulting the standard conversion table, shown as Table IV in the present report.

An index of value orientations, or IVO, has been constructed to estimate variations in life style of individuals or the "status parent" of a family. A person's way of life--his orientation to the world about him, his behavior and his aspirations, his appreciative and moral standards--does not necessarily correspond to his social status. From original proposals made by McGuire and Martin B. Loeb, a suitable index has been developed and tested at Texas (8). Like other indices, the IVO is an independent empirical construct which approximates certain essential aspects of the reality being studied.

Life styles, in any community, usually can be identified from interview data because informants talk about symbol figures who represent ways of living. A set of symbol figures from a reference group which is said to share value-attitudes or value-orientations in common. The superordinate value orientations, ascribed to the upper class, exert latent control for they often are hidden and only brought into play when necessary. The dominant value-attitudes are the prescribed ones since they are held by the most powerful element in the majority of communities, the upper-middle class. Alternative value orientations are modifications of the dominant ones which are given lower level approval at the "common man level," that is, among some lower-middle and many upper-lower people. Variant life styles are characteristic of ethnic groups or religious sects, where adherence to a tradition brings proved or prohibited (as delinquent or criminal) and adherence in the lower-lower element brings non-acceptance and the impositions of sanctions. Since there is a relationship between status and value orientations, social class terms often are employed to classify life styles but possible discrepancies should be kept in mind. A mobile person--one who changes status upward or downward--always has to learn new value orientations and accomplish a shift in life style.

The index of value orientations, or IVO, depends upon ratings for (i) education, (ii) religious affiliation, (iii) occupation, and (iv) source of income. The first two components assess probable differences in beliefs, attitudes, and values which guide behavior. The last two have to do with the socioeconomic base which make a life style possible. Table III sets forth the components to be rated along with appropriate weights. The total index score can be employed to estimate probable life style of a subject in terms of symbols of his value orientations, or it can be used to predict possible future life style if aspirations are known.

TABLE III

INDEX OF VALUE ORIENTATIONS

E . . . Education	Rate 1 to 7 on ED scale . . .	Weight	-- x 4
R . . . Religious Affiliation	" 1 to 7 on RA scale . . .	"	-- x 1
O . . . Occupation	" 1 to 7 on OC scale . . .	"	-- x 4
S . . . Source of Income . .	" 1 to 7 on SI scale . . .	"	-- x 3

The index can be employed to estimate a past, a present, or an aspired life style if components are rated approximately. To be comparable to other indices, the weights add to 12 and the total index values can vary from 12 (high) to 84 (low). Life styles can be inferred by entering the contingency table shown as Table IV. Some persons prefer to employ class-typed terms; other, to avoid status terms, can employ life style concepts.

Weights of components in all the indices have been adjusted so that a common conversion table can be employed. It should be remembered that the predictions of class status or of life style made by using the table are only approximations, probably correct 80 or 90 per cent of the time. To test the correspondence of the construct with reality, a research person can have persons of families placed by Hollingshead's "prestige judge" (r, pp. 25-45) or Warner's "Evaluated participation" (12, pp. 36-39, 47-117) procedures. Table IV is a modification of the original conversion table developed by Warner and his associates (12, p. 183). Index scores can be converted into letters to denote relative status level, into social class terms, or into descriptions of probable life style.

TABLE IV

GENERAL CONVERSION TABLE FOR STATUS INDICES

Index Score	Relative Status Level	Social Class Prediction	Break Points and Intervals of Indeterminancy	Life Style*	Intervals Employed in Correlation
12	A+	(UC)			
13-17	A	Upper Class	12--22	Super-	16 plus
18--22	A-			ordinate	17- 21
			(23-24)		
23-27	B+				22-26
28-32	B	(UM)	25--33	Dominant	27-31
33-37	B-	Upper-Middle		UM	32-36
			(34-37)		
38-41	C+	(LM)			37-41
42-46	C	Lower-Middle	38--50	Dominant	42-46
47-51	C-			LM	47-51
			(51-53)		
52-56	D+	(UL)			52-56
57-61	D	Upper-Lower	54--62	Alternate	57-61
62-66	D-				62-66
			(63-66)		
67-71	E+	(LL)			67-71
72-75	E	Lower-Lower	67--84	Deviant	72-76
76-84	E-				77 Minus

* A scale may be constructed and residential areas may be mapped by a committee of local people (2), by comparing "status maps" drawn by informants (14), or by the procedures employed by Warner et al in Jonesville (17, pp. 151 - 154).

TABLE VI

(HT)

HOUSE TYPES

Rate	Descriptive Bases for Constructing a Scale to be Used in a Community *
1.	Very large single-family dwellings in excellent repair, surrounded by adequate landscaped grounds which afford privacy; may not be found in every community.
2.	Homes larger than utility demands for the average family, with well-kept lawns and shrubbery; the dwelling or highly-valued apartment is kept in good condition.
3.	More conventional homes adequate for a family and kept in good repair; large apartments in well-kept buildings; grounds are relatively small and well-kept.
4.	Average dwellings and apartments; lawns kept but not landscaped; conventional.
5.	Smaller homes in excellent condition; larger dwelling units in fair condition.
6.	Homes or apartments are "run-down" but not deteriorated beyond repair.
7.	Dwelling units deteriorated beyond repair; all buildings not originally intended for dwellings, shacks, and over-crowded buildings; "unhealthy", "unsafe".

*A research person should be familiar with the range of possible dwelling units and have in mind typical homes or apartments in each category.

TABLE VIII

(SI)

SOURCE OF INCOME

1. Inherited saving and investments; "old money" reputed to provide basic income.
2. Earned wealth; "new money" has provided "transferable" investment income.
3. Profits, fees, royalties, includes executives who receive a "share of profit".
4. Salary, commissions, regular income aid on monthly or yearly basis.
5. Wages on hourly basis; piece-work; weekly checks as distinguished from monthly.
6. Income from "odd jobs" or private relief; "sharecropping" or seasonal work.
7. Public relief or charity; non-respectable incomes (reputation).

* The kind of income appears to be more important than the amount and, in general, the reputed major source of income is symbolic of placement in the community. In the case of a widow, the SI and OC are that of the deceased husband. Investments, insurance, pensions, security benefits, et al, are rated by the SI which made them possible unless considerable wealth ("1" and "2") is repured. Other components correct for seeming discrepancies.

TABLE IX

(ED)

EDUCATIONAL ATTAINMENT*

1. Completed appropriate graduate work for a recognized profession at highest level; graduate of a generally recognized, high status, four-year college.
2. Graduate from a four-year college, university, or professional school with a recognized bachelor's degree, including four-year teacher colleges.
3. Attended college or university for two or more years; junior college graduate; teacher education from a normal school; R.N. from a nursing school.
4. Graduate from high school or completed equivalent secondary education; includes various kinds of "post-high" business education or trade school study.
5. Attended high school, completed grade nine, but did not graduate from high school; for persons born prior to 1900, grade eight completed.
6. Completed grade eight but did not attend beyond grade nine; for persons born prior to 1900, grades four to seven would be equivalent.
7. Left elementary or junior high school before completing grade eight; for persons born prior to 1900, no education or attendance to grade three.

* Actual education attained probably is not as important as the education a person is reputed to have. The same scale is used to rate aspiration.

TABLE VII

(OC)

OCCUPATIONS: LEVELS AND KINDS*

	Professionals	Proprietors	Businessmen	White Collar	Blue Collar	Service	Farm People
1.	Lawyer, judge, physician, engineer, professor, school supt. etal	Large businesses valued at $100,000 or more depending on community	Top executives, President, etal of corporations, banks, public utilities	CPA; editor of newspaper, magazine; executive secy. of status organization			Gentleman farmer or land owners who do not supervise directly their property
2.	nurses, teachers, librarians, and others with 4-yr. college degree	Business valued at $50,000 to $100,000	Asst., office, & dept. manager or supervisors; some mfg. agents	Accountant; insurance, real estate, stock salesmen, editorial writers			Land Operators who supervise properties & have an active urban life
3.	Professionals without 4-yr. college degree	Business or equity valued from $10,000 to $50,000	Managers of small branches or buyers and salesmen of known mchdse.	Bank clerks, auto salesmen, postal clerks, RR or Tel. agt. or supervisor	Small contractor who works or supervises his jobs		Farm owners with "hired help"; operators of leased property who suprvs.
4.		Business or equity valued from $5,000 to $10,000	(Stenographer, bookkeeper; ticket agent, sales people in dept. stores, et al)		Foreman; master carpenter, electrician, etal; RR engineer	Police capt tailor, RR conductor; watchmkr.	Small landowner; operators of rented property hiring "hands"
5.		Business or equity valued from $2,000 to $5,000	(Dime store clerks, grocery clerks; telephone and beauty oper. et al)		Apprentice to skilled trades; repairmen; med. skilled workers	Policemen; barbers; LVN's, brakemen	Tenants on good farms; foreman; owners of farms who "hire out"
6.		Business or equity valued at less than $2,000		(Semi-skilled factory and production workers; assistants to skilled trade; warehousemen, watchmen)		Taxi and trk. drivers; waiter, waitress gas stn. attnt, aides	Sharecroppers; established farm Laborers; subsistence farmers.
7.	"Reputed Lawbreakers"			(Heavy labor; odd-job men; mine or mill hands, unskilled workers)		Domestic hlp. busboy scrubwomen, janitor hlp.	Migrant workers "squatters & nesters"

* For an original table, consult Warner's revised scale (12, pp. 140 - 141). Modifications in the present table represent revisions made after interviewing in communities and are "types" to guide other rating.

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List of Variables

VARIABLE LIST

BROWN IDS SELF CONCEPT REFERENT TEST VARIABLES

1. Self score: number of positive responses / total number of responses
2. Mother score: number of positive responses / total responses
3. Discrepancy score: number of items with differences between self and mother
4. Number of omits

PLAY SITUATION PICTURE BOARD SOCIOMETRIC VARIABLES

1. Diversity of choices: number of different peers chosen
2. Heterogeneity of SES choices: number of unlike peers chosen
3. Heterogeneity of Sex choices: humber of unlike peers chosen
4. Sociometric status: frequency [illegible] being chosen / number of times available for choice
5. Heterogeneity of SES status: frequency of being chosen by unlike peers / number of times available for choice by unlike peers
6. Heterogeneity of Sex status: frequency of being chosen by unlike peers / number of times available for choice by unlike peers

CLASSROOM SOCIO-OBSERVATION VARIABLES

1. Level of social involvement: mean level of involvement over all intervals
2. Peer proximity: average number of children in proximity over all intervals
3. Adult dependency: average number of intervals in interaction with adults
4. Peer association: average number of peers at 5 or 6 level of play

5. Consistency of peer proximity: duration of proximity per peer

6. Consistency of peer association: duration of interaction per peer

7. Heterogeneity of peer association (Sex): proportion of interaction with unlike vs. like peers

8. Heterogeneity of peer association (SES): proportion of interaction with unlike vs. like peers

OBSERVATION OF SOCIALIZATION BEHAVIOR VARIABLES

1. Gregariousness: mean number of peers in interaction per interval

2. Voice tone: mean affect of voice

3. Physical tone: mean affect of physical behavior

4. Social behavior: mean level of social behavior

5. Autonomy: mean level of autonomy

6. Social leadership: mean level of social leadership

7. Social competency: mean level of social competency

8. Emotionality: mean level of emotionality

9. Intensity of environmental control: mean level of acceptance (impact codes)

10. Activity level: mean level of responses and initiations

11. Familiative initiations: initiations after acceptances vs. rejections

12. Responsive initiations: initiations after acceptances or rejections vs. pure initiations

13. Initiative: number of intervals with initiations vs. without

14. Heterogeneity of initiations (Sex): proportion of initiations to unlike vs. like peers

15. Heterogeneity of initiations (SES): proportions of initiations to unlike vs. like peers

16. Acceptiveness of responses: proportion of acceptance to rejections

17. Responsivity: proportion of intervals responding vs. not responding

18. Duration: proportion of intervals in on-going behavior vs. responding

19. Tolerance for unfamiliar behavior (Sex): acceptances to unlike peers vs. like peers

20. Tolerance for unfamiliar behavior (SES): acceptances to unlike peers vs. like peers

21. Peer interaction: proportion of intervals in peer interaction vs. no peer interaction

22. Verbalization: proportion of intervals with verbalization vs. no verbalization

23. Verbal task orientation: task verbalizations vs. non-task verbalizations

24. Verbal dominance: proportion of intervals with suggestions vs. all other verbalizations

25. Verbal supportiveness: positive verbal vs. negative verbal affect

26. Fantasy: proportion of intervals in fantasy verbalizations vs. non-fantasy verbalizations

27. Physical contact: proportion of intervals in physical contact vs. no physical contact

28. Mutual goal directedness: proportion of intervals at level 6 social behavior vs. all other levels of social behavior

29. Socially unaware: proportion of intervals at level 1 or 2 social behavior vs. all other levels of social behavior

30. Positive control: proportion of accepted impacts vs. rejected impacts

31. Environmental control: proportion of accepted or rejected vs. neutral impacts

32. Heterogeneity of control (Sex): proportion of acceptances from an unlike peer vs. acceptances from a like peer in the impact codes.

33. Heterogeneity of control (SES): proportion of acceptances from an unlike peer vs. acceptances from a like peer in the impact codes

34. Aggression: proportion of intervals with negative physical tone with peers, vs. proportion with positive or neutral physical tone with peers

35. Withdrawal: proportion of intervals at level 1, 2, or 3 of social behavior with passive responses, vs. proportion of intervals at level 4, 5, or 6 of social behavior with passive responses

36. Facilitative of interaction: proportion of acceptances or ongoing responses at level 5 or 6 of social behavior vs. proportion at all other levels of social behavior

37. Nonverbal style of communicating: proportion of intervals with acceptances or rejections in the impact codes with no verbalization vs. proportion with verbalizations

38. Differential voice tone (Sex): mean affect of voice in interaction with unlike peers, less mean affect of voice in all interactions

39. Differential voice tone (SES): mean affect of voice in interaction with unlike peers less mean affect of voice in all interactions

40. Differential physical tone (Sex): mean affect of physical behavior in interaction with unlike peers less mean affect in all interactions

41. Differential physical tone (SES): mean affect of physical behavior in interaction with unlike peers less mean affect in all interactions

Results of Tests for Internal Consistency

Classroom Socio-Observations

Observations of Socialization Behavior (OSB)

Those variables from the Classroom Socio-Observations and Observation of Socialization Behavior (OSB) Instrument that were in the form of a rating scale were tested for the internal consistency of these ratings. An analysis of variance technique entitled Hoyt's Test of Internal Consistency was applied. This analysis provides a reliability coefficient in the range of 0 to 1. The results of these analyses are reported below.

Classroom Socio-Observation

Consistency over three consecutive observations.

Variable	Reliability Coefficient
Pre Social Behavior	.81
Post Social Behavior	.80

Observation of Socialization Behavior

Consistency over 30 intervals - Pre test data.

Variable	Reliability Coefficient
Social Behavior	.92
Emotionality	.73
Social Competency	.89
Social Leadership	.88
Autonomy	.92
Behavioral Tone	.87
Level of Response	.80

Appendix B

Sample Lessons

Sample Lesson

M.S.U. Sociodramatic Play Curriculum

Lead-up to Doctor's Office Dramatic Play

Activity:

Listening task with stethoscopes

Objectives:

1. To acquaint children with stethoscopes before use in a dramatic play situation.
2. For children to learn that ticking sounds can be heard through a stethoscope.

Materials:

1. Two stethoscopes
2. One loud ticking clock or oven timer
3. 2 doctor's bags

Procedure:

Put the stethoscopes and clock on a table during free play. A teacher should be at the table to show the children how to use the stethoscopes. As children begin to take an interest, the teacher might say, THIS IS CALLED A STETHOSCOPE. MOST DOCTORS HAVE ONE. YOU CAN LISTEN TO SOUNDS WITH IT. THE ENDS OF THE STETHOSCOPE FIT INTO YOUR EARS LIKE THIS (Teacher demonstrates); THEN YOU USE THIS OTHER END TO LISTEN TO SOUNDS LIKE THE TICKING OF THIS CLOCK. WATCH. (Hold the stethoscope up to the face of the clock and show a surprised facial expression when you hear the ticking.) Encourage the children to listen to the clock. NOW IT'S YOUR TURN. SEE IF YOU CAN HEAR IT.

After the children have heard the ticking clock through stethoscopes, tell them, DOCTORS ALSO USE STETHOSCOPES TO LISTEN TO PEOPLE'S HEARTS. CAN YOU HEAR MY HEART BEAT? Show the children how to hold the stethoscope to their chest. YOU MIGHT ALSO WANT TO LISTEN TO A FRIEND'S HEARTBEAT. Some children may not want to have other children listen to their hearts, so caution children to ask their friends if it's okay before they approach another child. ASK MARY IF YOU CAN LISTEN TO HER HEARTBEAT. If Mary says no, the teacher should say, matter-of-factly, MARY DOESN'T WANT YOU TO LISTEN TO HER HEART RIGHT NOW. YOU CAN LISTEN TO MY HEART IF YOU WANT TO, OR MAYBE TOM WILL LET YOU LISTEN TO HIS HEART, IF YOU ASK HIM.

The stethoscopes and clock should be out for the children to explore and manipulate during free play for the week prior to Doctor's Office dramatic play. Many children will be intrigued with the stethoscopes, especially on the first day that they are out. The teacher needs to reassure the children that they will all get to have a turn to listen and that the stethoscopes will be out all the rest of the week for them to play with. The teacher should try to limit the number of children at the table to no more than four to five at a time: two children can watch while two other children are using the stethoscopes. If many more children are at the table, tempers grow short and the wait becomes too long for most children. Redirect children to other activities whenever possible. JOHN AND SUE, YOU CAN LOOK AT A BOOK OR DO A PUZZLE WHILE YOU'RE WAITING TO USE THE STETHOSCOPES. I'LL CALL YOU WHEN IT'S YOUR TURN. If a lot of children are waiting to use the stethoscopes, the teacher can also shorten the length of time each child uses the stethoscopes by having the children only listen to the clock on the first day. She can show them how to listen to heartbeats the second day. The teacher should also be aware that some children may only want to watch others use the stethoscopes the first few days before trying it themselves.

Other places to listen for sounds are on:
-- aquarium glass
-- window or wall
-- table
-- body parts

Try other areas of your room to see if there are sounds there.

Socialization Curriculum

Activity: Doctor's Office Dramatic Play

Objectives:

1. To help the child develop skill in initiating interactions with others.
2. To help the child develop skill in responding to the interactive attempts of others.
3. To help the child develop the self control necessary to deal with the unfamiliar behavior of other children.
4. To help the child develop the self control necessary to allow another child or adult to continue toward his goal.
5. To help the child develop the skills and self control necessary to share toys and materials and to play in association with other children.
6. To aid the child in building the skills necessary to work with other children toward a mutual goal.

Materials: Doctor's Office

Cots (2) or beds marked on floor with masking tape
Pillows (2) (optional)
Blankets (2) (optional)
Two white shirts for the doctors or arm bands
Shelving or stand for doctor's equipment
Stethoscopes (2)
Syringes (1)
Gauze strip bandages or strips of cloth
Gummed labels cut into various sizes (for bandaids)
Cotton balls (2)
Doctor's bags (2)
Bathroom scale (optional)
Splints (2) - optional
Flashlights (optional)
Play thermometers (optional)

Waiting room

Child-sized chairs (3 or 4)
Magazines on shelf
Storybooks about doctors and nurses

Procedure:

The Doctor's office should be set up in a second dramatic play area. It should not take the place of the regular housekeeping area. The props should be set up before the children arrive. It is best to start with only a few basic props the first day and add one or two new props each day. For example, the first day include 2 stethoscopes, 2 syringes, strips of gauze or cloth for bandages and two doctor's bags. The second day add gummed labels in a bandaid box, the third day add splints and cotton balls, the 4th day add bathroom scale, the 5th day add flashlights and play thermometers if desired.

The number of children playing in a Doctor's office should be limited to 4 at a time: 2 doctors, 2 patients. However, the teacher may also want to set up a small "waiting room" where a few other children can read books while waiting to see the doctors. The books in the "waiting room" should include old magazines and/or children's books about doctors and nurses borrowed from a local library.

One of the teachers' most important roles will be to model and explain appropriate role behavior of doctors and patients for the children. Sometimes the teacher will only have to give a suggestion, and at other times she/he may have to be a pretend patient or doctor. This will vary with the group of children playing in the area. No matter what methods the teacher uses the main goal is to get children to interact with each other and play cooperatively.

Following are suggested statements for the teacher to make depending upon the situation. The child may be outside of the dramatic play and need an entrance. He may be in the ongoing play and need help in continuing the play, or the child may need to exit from the play.

Entrance and exit from the situation will be dependent on the limits of the play. That is, the activity was designed for four children. If there are not four children playing, the teacher should use one of the entrance suggestions or create another. If there are more than four children in the play or a child needs to let another have a turn, an exit statement should be made. If most of the play is solitary, i.e. each child fixing his own arm with bandages, a continuance statement should be made to stimulate interactions between the children.

Suggested teacher interactions:

Entrance to play situation:

1. YOUR BABY DOESN'T LOOK VERY WELL TODAY. HAS SHE BEEN EATING? I THINK YOU SHOULD TAKE HER TO A DOCTOR. COME ON I'LL GO WITH YOU. (Teacher goes with child to play area.)
2. SCHOOL'S STARTING NEXT WEEK FOR YOUR CHILDREN. HAVE YOU MADE AN APPOINTMENT WITH THE DOCTOR FOR A CHECK-UP FOR THEM? I'LL HELP YOU MAKE THE APPOINTMENT. LET'S GO SEE (OR CALL) YOUR DOCTOR. (Teacher goes with child to make appointment or helps him call on play telephone.)
3. (Teacher who is involved in dramatic play) BEFORE I GO TO WORK TODAY I BETTER GO GET A CHECK-UP. (Teacher goes to doctors area.) DOCTOR. I NEED A CHECK-UP. WHEN CAN YOU SEE ME?
4. (Teacher in house area.) I DON'T FEEL VERY WELL TODAY, I THINK I'LL SEE THE DOCTOR. MY LEG HURTS (T. limps and holds leg while walking to doctors office.) DOCTOR CAN YOU FIX IT? (To prolong this type of play use any or all of the following statements after arrival.) ALSO, MY ARM HURTS HERE... DO YOU HAVE A BAND-AID FOR MY CUT HERE? DO YOU THINK I NEED A SHOT TO STAY WELL? BEFORE I LEAVE CAN YOU WEIGH ME?

Continuance of play:

1. NURSE, PLEASE WEIGH AND MEASURE THIS PATIENT, THEN SEND HIM IN TO SEE THE DOCTOR.
2. DOCTOR, I NEED HELP FIXING THIS PATIENT. WOULD YOU HELP ME WITH THIS BANDAGE?
3. BUT DOCTOR YOU BETTER ASK HIM IF THERE'S ANYTHING ELSE WRONG WITH HIM.
4. BUT DOCTOR AREN'T YOU GOING TO TELL THE PATIENT WHAT MEDICINE HE NEEDS TO TAKE HOME?

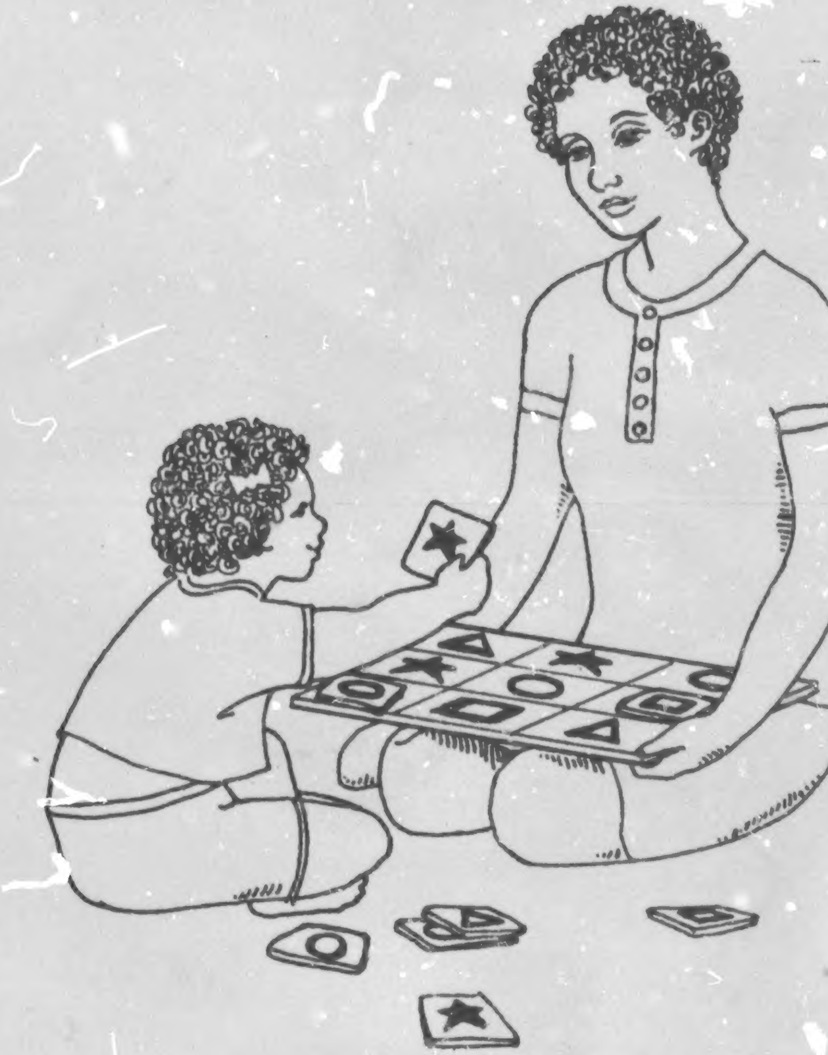
Exit from play situation:

1. I THINK YOUR BABY WILL BE OK NOW. YOU CAN TAKE HER HOME NOW.
2. I'M DONE WITH YOUR CHECK-UP. IT'S OK FOR YOU TO GO BACK TO WORK.
3. IT'S YOUR (To child playing doctor) TURN TO HAVE A DAY OFF. YOU CAN HANG YOUR COAT UP NOW.
4. DOCTOR, FINISH WITH THAT PATIENT. YOU HAVE OTHER PATIENTS TO SEE. IT'S TIME FOR OTHER APPOINTMENTS.

Sample Lesson

Parents Are Teachers Too

LOTTO GAMES



Mix'N Match Lotto Games

Lotto games are fun to play alone. However, your child will benefit most when you play the game with him. Mother and Dad can bring out many clues children might miss in an attempt to match the cards.

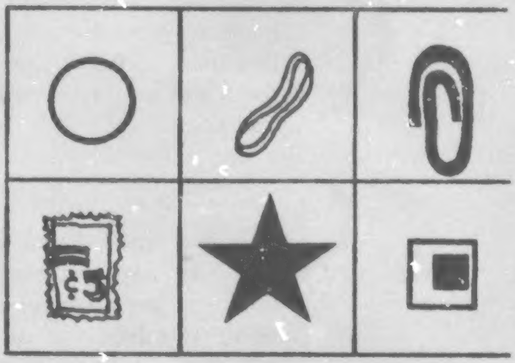
Lotto games are another way children learn important problem solving skills. While playing lotto a child learns that when he faces any kind of problem there are important clues right there in the event that will help him find the answer.

As you play these games, encourage your child to name the picture and talk about the cards as he is placing them on the appropriate squares. By identifying and describing the similarities, differences, colors and shapes of the objects children expand their use of language and increase their vocabularies. By observing the different cards, children sharpen their ability to identify shapes which will eventually help them distinguish letters and words.

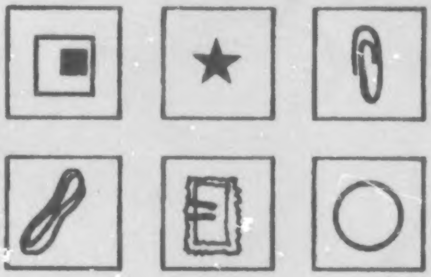
HOW TO MAKE A LOTTO BOARD

Lotto boards and cards can be made from tag board or any kind of heavy cardboard. Cut the board 6" x 9" and the cards 3" x 3". Arrange the six cards in two rows of three on the lotto board. With a ruler and heavy magic marker draw the lines onto the board that will divide the space into the six squares. Using identical objects or pictures paste matching items onto both the card and the board. Similar objects can be used for one lotto game. For example, one board could be made for a young child with things found in a desk like rubber bands, paper clips or used stamps. Another game could be made with foods like dried peas or beans. Arranging gummed stars into different patterns is another way to make a game that would be challenging to an older child.

SAMPLE LOTTO BOARD



SAMPLE LOTTO CARDS



LOTTO GAME DIRECTIONS

Mix & Match

Spread out all the boards and all the playing cards. Ask your child to match the cards to the board as if working a puzzle.

Bingo

Place the boards and playing cards upside down and each player picks one board. Take turns playing the role of the "caller" who picks up a card and names it. The person who can match the card called on his board can claim it. Continue playing the game until one person wins the game by matching and covering all the pictures on his board.

Scramble Race

Place all boards in easy reach of all players. Mix and deal playing cards in equal amounts to each player. All players try at the same time to match each of their cards on the boards as fast as they can. The first person to match all of his cards is the winner.

Classification Game

Place all playing cards face up. Ask your child to find all cards that have something in common. For example, ask your child to find all the cards with objects that are food and could be eaten. Or, ask him to find all cards that have objects that are one color.

Concentration

This is a real favorite with children—they'll stick to it long after you're exhausted. Select or pass out the playing boards to the players. Turn all of the cards upside down on the table and begin to draw cards, one person at a time. If the card you select matches one on your board, then take another turn. If it doesn't match call out the name of the object and place it face down again. The other players must be alert to remember where the cards they will need are—so concentrate!

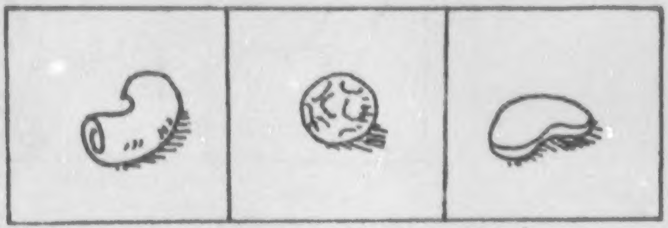
DESIGNING A LOTTO GAME TO MEET THE INTERESTS OF YOUR CHILD

Playing lotto requires that children use and develop matching skills to be able to distinguish between same and different objects or pictures. A very young child needs a game with large quality differences and older children are challenged by patterns and associations that are more difficult to see and understand.

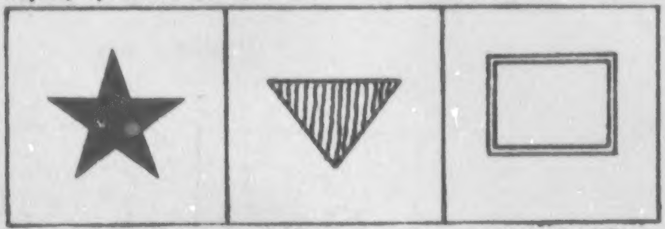
Try to consider your child's interests and abilities when making the lotto games that you will be using with him. It is important to understand that children first begin to think in terms of real concrete objects and can then deal with thinking that involves abstract ideas.

The following are examples of different kinds of materials that can be used in making lotto games. The materials on the list are organized according to the kind of thinking required in using the game. They are listed in order of difficulty beginning with materials appropriate for younger children.

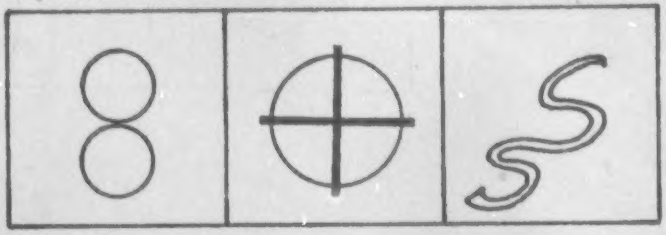
1. Simple real objects (macaroni, beans, peas)



2. Simple shapes, symbols and pictures (stars, numbers)

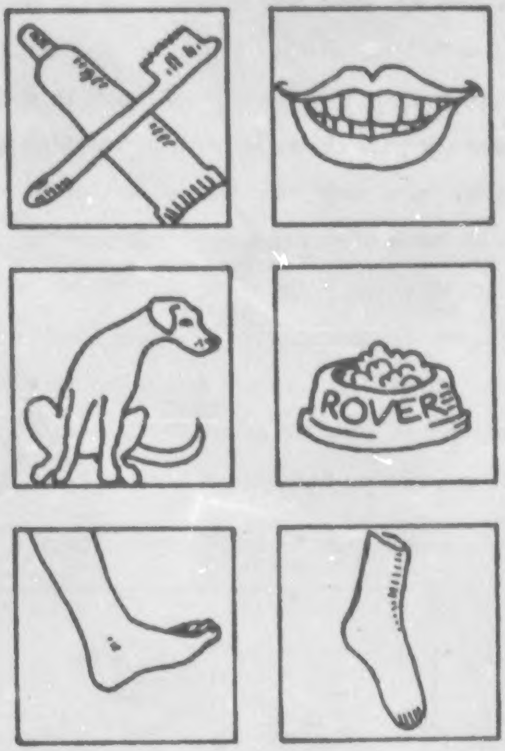


3. Objects or pictures placed in different patterns (00, 8, 88)



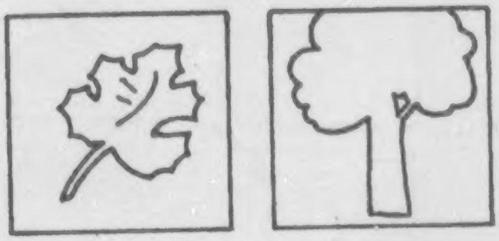
4. **Association concepts**

a. **things that go together—dog to doghouse**



b. **parts of a whole—window in a house**

—leaf and tree



Appendix C

Descriptions of Centers in the Sample

CENTER 1

Center 1 was a non-profit, federally licensed Day Care facility supported in part by the United Fund and the Board of Missions of the United Methodist Church. It provided a sliding scale fee structure admitting children of single families or families in need of assistance first. No transportation was provided. The licensed capacity was 63 children, with 70 children enrolled. The center was located within the downtown area of a large city as a part of a larger community center. The Day Care Center had been in existence for 20 years, two years at the present site.

The physical facilities were especially designed for day care use, and were complemented by the other facilities of the community center (i.e. large gym, meeting rooms, kitchen, etc.). This was especially convenient for parent meetings.

The center's clientele was 90% black. The two teachers presenting the parent program were also black. The director of the center participated but in an advisory capacity.

The center had an active parent-represented Day Care Committee that formulated policy and authorized child-involved activities.

Previous parental involvement programs at the center consisted mainly of open houses, special parties, and periodic meetings that were reportedly very well supported by the parents.

During the course of the Parents are Teachers Too program, a strike of some of the employees of the community center occurred. This disrupted the teaching effort and therefore parent meetings were postponed temporarily.

CENTER 2

Center 2 was a private, non-franchised center supported solely by fees and tuition. It had a licensed capacity of 56 with approximately 100 children enrolled, many part-time. The center was a remodelled ranch-style home, located in a suburban area of a large city. It had been in operation for 2 1/2 years.

The center's clientele was 99% anglo, with about 15% receiving social services' aid to dependent children.

The owner/director supervised the educational program and placement of children along with her administrative duties. Self-contained classrooms were staffed with trained teachers and aides. Although no formal curricula were adopted the teachers had a variety of resources available to them. Classrooms were well equipped and space effectively utilized.

Children from three classrooms participated in the study. Teachers or aides from each of the rooms participated, although children rotated through one dramatic play area.

CENTER 3

Center 3 was sponsored by a private, non-profit association that operated two centers in this large industrial city. It had a licensed capacity of 47 children, enrolling 70 children, many part-time. The center was located in a church, and consisted mainly of a large open classroom and a few smaller Sunday school rooms. It had been in operation for 2 years. The main source of financial support came from tuition and fees, although a type of sliding scale was available for needy families.

The center's clientele was majority anglo, with 31% black. Both anglo and black staff participated in the parent program. The center's executive director assumed the leadership with the parent program, while the head teacher was involved in both programs. A volunteer teacher supervised the children's program with the help of the head teacher.

Although the center was governed by a board of trustees with parental representation, in general parent involvement at the center was minimal. Attendance at previous parent meetings and parties was reportedly poor.

An inservice training program was being implemented during the year to upgrade staff expertise. Limited materials and equipment were available for educational programming. General staff rapport, however, was excellent.

CENTER 4

Center 4 was a public, non-profit center, supported by various organizations and the United Fund. It had a licensed capacity of 120 children all full-time. The center provided a sliding scale fee structure with the majority of the families receiving partial subsidies. Children from single parent families were given enrollment priority. The clientele of the center was mixed 60% anglo - 40% black. Many of the families had more than one child enrolled and enrolled for a number of years.

The center was located in an old mansion between the residential and downtown areas of a large industrial city. The building was furnished to reflect a warm, homey atmosphere. The center had been in operation for eight years. It had a large number of support personnel.

A non-teaching head heacher provided leadership to the educational programming along with a director-administrator. The center had a large number of resources, equipment, and supplies available for programming, although no formal curricula were adopted. In general, intra-staff and parent-staff rapport was excellent.

CENTER 5

Center 5 was a private franchised center solely supported by tuition and fees. It had a licensed capacity of 107, with 166 children enrolled, many part-time.

It was located on the fringes of an urban area in a new building especially designed as a day care center. It had been in operation for just over two years. The center had a mixed clientele of approximately 60% anglo, 40% black families. Staff from both ethnic backgrounds participated in the programs. The center changed directors during the project implementation, but as this was anticipated, the incoming director assumed the responsibility for the parent program at the outset. A change in head teacher for the children's program also occurred near the beginning of the program implementation. Excellent staff rapport helped ease the transitions.

Parent involvement at the center was minimal, although parent cooperation and interest in the center was reportedly fairly high. No formal curricula were ever adopted at the center, although the Peabody language kit materials were available.

CENTER 6

Center 6 was a private franchised center supported solely by fees and tuition. It had a licensed capacity of 96, with 149 children enrolled, many part-time. Tee center was located on the outskirts of a large industrial city in a building specially designed as a day care center.

The center's clientele was 92% anglo, with only a few black and chicano families. The staff was 100% anglo.

Children were divided into two large open classrooms. Children from both of these groups participated in the study. Head teachers from both groups supervised the sociodramatic play program. These teachers were well qualified, and cooperated in the use of the curriculum. No other curriculum models were adopted at the center, although Peabody language kit materials were available and the Director was making other resources available for the teachers.

CENTER 7

Center 7 was a private, franchised center, supported solely by fees and tuition. It had a licensed capacity of 96, with 135 children enrolled. It was located on the fringes of a residential area in a large industrial city. The physical facility was a building specially designed as a day care center, and transportation was provided. It had two large open classrooms with a number of areas separated by folding doors. Equipment and materials were limited. The center was in operation for 3 1/2 years. The center's clientele was 30% anglo, 20% black, with a large number of families receiving aid to dependent children.

The center had a large amount of turnover in enrollment during the period of association with the project. During the year, the director's position also changed.

This center experienced difficulty in soliciting parental cooperation as required by the research project. Children from both of the classrooms participated in the study.

CENTER 8

Center 8 was a private, franchised center that was solely supported by tuition from both families and the Department of Social Services for those families eligible for ADC. It had a licensed capacity of 107 children, with 132 children enrolled. Transportation was provided. The center was located on the fringes of the industrial area of a large city. It had been in operation for approximately 1 1/2 years.

The physical plant was very new and especially designed as a day care center. Large open spaces were flexibly subdivided as classrooms. Children from three classrooms participated in the study.

The center was in a state of flux during the year of participation as a result of the movement of three different directors into the administrator's role. This instability in the administration did not seem to affect the program's implementation, but did place additional strain on the teachers. An initial step was taken by the staff during this time to form a parent board, but it was not yet active.

Previous parental involvement at the center was minimal, consisting of open houses, parties, and field trip support.

Appendix D

Supplemental Results

Pearson Product Moment Correlations

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- - - - - - - - - - - - P E A R S O N   C O R R E L A T I O N   C O E F F I C I E N T S - - - - - - - - - - - -

           SOCRPH     INVOLV     AUT        SELF       STATUS     TOTEXP     HALFFQ     NOCHILD    NOENTER    AGE        SESV

SELF         .0411      .1392      .2337     1.0000     -.2075      .1165      .1119     -.0452      .0997      .1458     -.2162
          (  160)    (  159)    (  160)    (    0)    (  199)    (  199)    (  199)    (  199)    (  199)    (  199)    (  199)
          S= .303    S= .297    S= .001    S= .001    S= .002    S= .054    S= .059    S= .263    S= .106    S= .028    S= .001

STATUS       .1057      .1292     -.0431     -.2075     1.0000      .0397      .1097     -.0029      .0979     -.0659     -.0167
          (  169)    (  197)    (  164)    (  199)    (    0)    (  210)    (  211)    (  211)    (  211)    (  211)    (  211)
          S= .086    S= .349    S= .292    S= .002    S= .001    S= .289    S= .056    S= .483    S= .102    S= .171    S= .409

TOTEXP       .2195     -.0231      .1222      .1165      .0397     1.0000      .1231     -.1667      .2660      .1157     -.2378
          (  167)    (  196)    (  167)    (  199)    (  210)    (    0)    (  210)    (  210)    (  210)    (  210)    (  210)
          S= .002    S= .379    S= .059    S= .054    S= .299    S= .001    S= .037    S= .009    S= .001    S= .047    S= .001

HALFFQ       .0195      .0471      .1455      .1119      .1097      .1231     1.0000      .0074      .0103     -.0868     -.1541
          (  164)    (  197)    (  169)    (  199)    (  211)    (  210)    (    0)    (  211)    (  211)    (  211)    (  211)
          S= .406    S= .271    S= .030    S= .059    S= .056    S= .037    S= .001    S= .459    S= .441    S= .106    S= .013

NOCHILD     -.1303      .0494     -.0653     -.0452     -.0029     -.1667      .0074     1.0000     -.0460      .0340      .2934
          (  169)    (  197)    (  169)    (  199)    (  211)    (  210)    (  211)    (    0)    (  211)    (  211)    (  211)
          S= .046    S= .245    S= .199    S= .263    S= .493    S= .009    S= .458    S= .001    S= .253    S= .312    S= .001

NOENTER      .1731      .0311      .2135      .0997      .0979      .2550      .0103     -.0460     1.0000      .2191     -.0352
          (  169)    (  197)    (  164)    (  199)    (  211)    (  210)    (  211)    (  211)    (    0)    (  211)    (  211)
          S= .012    S= .332    S= .003    S= .106    S= .102    S= .001    S= .441    S= .251    S= .001    S= .001    S= .306

AGE          .2741      .1667      .2757      .1458     -.0659      .1157     -.0868      .0340      .2191     1.0000      .0601
          (  169)    (  197)    (  169)    (  199)    (  211)    (  210)    (  211)    (  211)    (  211)    (    0)    (  211)
          S= .001    S= .009    S= .001    S= .028    S= .171    S= .047    S= .106    S= .312    S= .001    S= .001    S= .192

SESV         .0331      .0431      .0001     -.2162     -.0167     -.2378     -.1541      .2934     -.0352      .0601     1.0000
          (  168)    (  197)    (  169)    (  199)    (  211)    (  210)    (  211)    (  211)    (  211)    (  211)    (    0)
          S= .336    S= .276    S= .499    S= .001    S= .409    S= .001    S= .013    S= .001    S= .306    S= .192    S= .001
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- - - - - - - -  P E A R S O N   C O R R E L A T I O N   C O E F F I C I E N T S - - - - - - - - - - - - -

              AGG        FACINTER  PHYSC      EMOT       AGT        PHYTN      VOCTN      ABULTO     SOCCOM     SOCLEA

SELF          -.0410     -.2977      .0013     -.0675     -.0766     -.0897     -.0457     -.0911     -.0446      .1076
             (  160)   (  160)   (  160)   (  150)   (  160)   (  150)   (  150)   (  189)   (  160)   (  160)
             S= .303   S= .001   S= .496   S= .199   S= .159   S= .130   S= .293   S= .107   S= .288   S= .089

STATUS         .1073      .1436      .1035      .0539     -.0515     -.0953      .0023      .0100     -.0526     -.1169
             (  169)   (  169)   (  159)   (  159)   (  159)   (  164)   (  168)   (  197)   (  159)   (  168)
             S= .083   S= .032   S= .091   S= .244   S= .246   S= .116   S= .495   S= .445   S= .218   S= .066

TOTEXP         .0083     -.0840      .1007      .0969     -.1457     -.1099      .0396     -.0667      .0573      .1420
             (  167)   (  167)   (  167)   (  157)   (  157)   (  157)   (  157)   (  196)   (  157)   (  167)
             S= .458   S= .140   S= .099   S= .112   S= .029   S= .079   S= .311   S= .177   S= .196   S= .033

HALFED         .0251     -.0533      .0147      .0595     -.0816     -.0177     -.0136      .0599      .0919      .0972
             (  169)   (  169)   (  159)   (  159)   (  159)   (  159)   (  159)   (  197)   (  169)   (  169)
             S= .374   S= .246   S= .426   S= .226   S= .157   S= .410   S= .430   S= .202   S= .166   S= .105

HOCHILD        .0819      .1605     -.0191     -.0945     -.0793     -.0101     -.0837      .1530      .0614     -.0488
             (  169)   (  169)   (  169)   (  169)   (  169)   (  159)   (  159)   (  197)   (  169)   (  160)
             S= .145   S= .019   S= .403   S= .112   S= .155   S= .449   S= .148   S= .016   S= .215   S= .268

HOCNTER        .0943     -.0771      .0377      .0676     -.1731     -.1123     -.0623      .1066     -.1215      .1913
             (  168)   (  169)   (  169)   (  159)   (  159)   (  159)   (  158)   (  197)   (  169)   (  160)
             S= .111   S= .160   S= .317   S= .198   S= .012   S= .079   S= .217   S= .069   S= .058   S= .007

AGE            .0767      .0323      .1559      .1452     -.2556     -.1217      .1402     -.0831     -.1020      .3372
             (  169)   (  169)   (  169)   (  159)   (  159)   (  159)   (  158)   (  197)   (  159)   (  160)
             S= .161   S= .340   S= .022   S= .034   S= .001   S= .059   S= .039   S= .123   S= .096   S= .001

SESV           .1505      .1765      .1323     -.0232     -.0936     -.1099     -.1219     -.0176     -.1157      .0661
             (  169)   (  168)   (  169)   (  169)   (  159)   (  158)   (  160)   (  197)   (  160)   (  160)
             S= .026   S= .011   S= .044   S= .383   S= .120   S= .078   S= .061   S= .403   S= .068   S= .205
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- - - - - - - - - - - - - P E A R S O N   C O R R E L A T I O N   C O E F F I C I E N T S - - - - - - - - - - - - -

            SOCREH      INVOLV      AUT         SELF        STATUS      TOTEXP      HALFED      NOCHILD     NOENTER     AGE         SESV

AGG           .1456       .0839       .1391      -.0410       .1073       .0083       .0291       .0819       .0840       .0767       .1585
            (   169)    (   161)    (   169)    (   163)    (   159)    (   157)    (   169)    (   168)    (   169)    (   168)    (   168)
            S= .030     S= .124     S= .035     S= .303     S= .093     S= .459     S= .376     S= .146     S= .139     S= .16[illegible]  S= .026

FACINTER      .1936      -.0662      -.0603      -.2977       .1636      -.0860      -.0533       .1605      -.0271       .0303       .1765
            (   169)    (   161)    (   169)    (   158)    (   159)    (   157)    (   159)    (   169)    (   169)    (   168)    (   168)
            S= .006     S= .203     S= .219     S= .001     S= .012     S= .140     S= .266     S= .019     S= .364     S= .348     S= .011

PHYSC         .6577       .0097       .1329       .0013       .1035       .1007       .0149      -.0181       .0327       .1550       .1323
            (   169)    (   161)    (   169)    (   160)    (   159)    (   157)    (   169)    (   169)    (   159)    (   168)    (   168)
            S= .001     S= .455     S= .043     S= .494     S= .091     S= .098     S= .424     S= .409     S= .337     S= .022     S= .044

EMOT          .5191       .0565       .3906      -.0675       .0553       .0965       .0595      -.0945       .0676       .1452      -.0232
            (   169)    (   161)    (   169)    (   163)    (   159)    (   157)    (   169)    (   168)    (   158)    (   168)    (   168)
            S= .001     S= .242     S= .001     S= .199     S= .244     S= .112     S= .226     S= .112     S= .192     S= .030     S= .383

ACT          -.6497      -.1619      -.3357      -.0766      -.0535      -.1467      -.0815      -.0783      -.1751      -.2666      -.0996
            (   169)    (   161)    (   168)    (   160)    (   159)    (   157)    (   159)    (   159)    (   168)    (   168)    (   168)
            S= .001     S= .020     S= .001     S= .168     S= .266     S= .029     S= .147     S= .15[illegible]  S= .012     S= .001     S= .099

PHYTN        -.2615      -.0798      -.1647      -.0897      -.0953      -.1099      -.0177      -.0[illegible]1     -.1093      -.1217      -.1099
            (   169)    (   161)    (   169)    (   160)    (   159)    (   157)    (   159)    (   168)    (   169)    (   168)    (   168)
            S= .001     S= .157     S= .015     S= .130     S= .116     S= .079     S= .410     S= .444     S= .079     S= .058     S= .078

VOCTN         .4147       .0130       .0813      -.0457       .0029       .0396      -.0135      -.0837      -.0609       .1362      -.1349
            (   169)    (   161)    (   168)    (   160)    (   169)    (   157)    (   169)    (   168)    (   168)    (   168)    (   168)
            S= .001     S= .435     S= .147     S= .283     S= .485     S= .311     S= .430     S= .140     S= .217     S= .039     S= .041

ADULTD        .0145      -.0247      -.0134      -.0911       .0109      -.0667       .0599       .1539       .1064      -.0831      -.0175
            (   161)    (   197)    (   161)    (   189)    (   197)    (   195)    (   197)    (   197)    (   197)    (   197)    (   197)
            S= .429     S= .364     S= .433     S= .107     S= .445     S= .177     S= .202     S= .015     S= .068     S= .123     S= .403

SOCCOM       -.0286       .1008      -.1243      -.0444      -.0626       .0673       .0919       .0614      -.1215      -.1020      -.1157
            (   169)    (   161)    (   169)    (   160)    (   169)    (   157)    (   168)    (   168)    (   168)    (   168)    (   168)
            S= .357     S= .102     S= .056     S= .289     S= .213     S= .198     S= .118     S= .215     S= .058     S= .094     S= .068

SOCLFA        .6891       .1610       .7213       .1976      -.1155       .1429       .0972      -.0490       .1913       .3372       .0441
            (   168)    (   161)    (   168)    (   160)    (   159)    (   157)    (   169)    (   168)    (   169)    (   168)    (   169)
            S= .001     S= .021     S= .001     S= .006     S= .074     S= .037     S= .105     S= .264     S= .007     S= .001     S= .285

SOCREH       1.0000       .2079       .3702       .0411       .1037       .2196       .0195      -.1303       .1731       .2761       .0336
            (     0)    (   161)    (   169)    (   160)    (   159)    (   157)    (   159)    (   168)    (   169)    (   168)    (   168)
            S= .001     S= .004     S= .001     S= .303     S= .096     S= .003     S= .406     S= .046     S= .012     S= .001     S= .336

INVOLV        .2078      1.0000       .1725       .0392      -.0298      -.0239       .0421       .0496       .0311       .1067       .0431
            (   161)    (     0)    (   161)    (   198)    (   197)    (   136)    (   197)    (   197)    (   197)    (   197)    (   197)
            S= .004     S= .001     S= .014     S= .292     S= .339     S= .370     S= .279     S= .245     S= .332     S= .068     S= .274

AUT           .3792       .1726      1.0000       .2337      -.0631       .1222       .1455      -.0655       .2136       .2757       .0001
            (   169)    (   161)    (     0)    (   158)    (   169)    (   157)    (   158)    (   168)    (   168)    (   168)    (   168)
            S= .001     S= .014     S= .001     S= .001     S= .230     S= .064     S= .034     S= .199     S= .003     S= .001     S= .499
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- - - - - - - - - - - - - - P E A R S O N   C O R R E L A T I O N   C O E F F I C I E N T S - - - - - - - - - - - - -

           INVOLV     APPROX     ADULTO     PASSOC     CPPROX     SREG       EMOT       ACT        FACINI     INIT
                                                                                                                       ANT        SOCSEN     INVOLV
PERPI        .0791     -.0767     -.0205      .1136      .0552     -.0225      .4153     -.2390      .0291      .3442
          (  161)    (  161)    (  161)    (  161)    (  161)    (  159)    (  169)    (  169)    (  169)    (  160)     -.0313      .1210      .0791
          S= .153    S= .167    S= .399    S= .076    S= .240    S= .386    S= .001    S= .001    S= .359    S= .001   (  169)    (  168)    (  161)
                                                                                                                    S= .341    S= .061    S= .153

VERB         .0653     -.1132      .0709      .0533      .0737     -.0567      .3595     -.3235     -.0398      .1556
          (  161)    (  161)    (  161)    (  161)    (  161)    (  159)    (  159)    (  169)    (  158)    (  160)      .1758      .3405      .0653
          S= .205    S= .076    S= .185    S= .213    S= .176    S= .241    S= .001    S= .001    S= .304    S= .022   (  169)    (  169)    (  161)
                                                                                                                    S= .011    S= .001    S= .205

FANT        -.0136      .1170     -.0093     -.0317     -.0335      .1736     -.0378      .0733      .1150     -.1000
          (  161)    (  161)    (  161)    (  161)    (  161)    (  159)    (  169)    (  169)    (  169)    (  160)     -.0529     -.0392     -.0135
          S= .432    S= .070    S= .459    S= .345    S= .339    S= .012    S= .313    S= .173    S= .069    S= .099   (  169)    (  169)    (  161)
                                                                                                                    S= .251    S= .305    S= .432

PHYSC        .0097     -.1527     -.0001     -.0155     -.0230     -.1517      .4423     -.3695     -.0122      .5169
          (  161)    (  161)    (  161)    (  161)    (  161)    (  158)    (  159)    (  168)    (  169)    (  160)      .1328      .4577      .0097
          S= .456    S= .027    S= .500    S= .423    S= .389    S= .025    S= .001    S= .001    S= .438    S= .001   (  168)    (  169)    (  161)
                                                                                                                    S= .043    S= .001    S= .456

GOAL         .0496     -.0906      .0597      .0053     -.0177     -.1578      .1916     -.2206      .0058     -.0377
          (  161)    (  161)    (  161)    (  161)    (  161)    (  159)    (  159)    (  169)    (  159)    (  160)      .2016      .3573      .0496
          S= .267    S= .155    S= .233    S= .473    S= .412    S= .015    S= .009    S= .002    S= .470    S= .314   (  169)    (  169)    (  161)
                                                                                                                    S= .004    S= .001    S= .267

UNAW        -.0367     -.0457     -.0449     -.0194     -.0153      .0474     -.1574      .0929     -.1022     -.1036
          (  161)    (  161)    (  161)    (  161)    (  161)    (  159)    (  169)    (  169)    (  169)    (  160)     -.0049     -.4582     -.0367
          S= .322    S= .283    S= .285    S= .403    S= .420    S= .271    S= .021    S= .116    S= .094    S= .091   (  169)    (  169)    (  161)
                                                                                                                    S= .475    S= .001    S= .322

ENVCON       .1633     -.1751     -.0644      .1510      .1015     -.0255      .4795     -.3951      .0782      .5909
          (  161)    (  161)    (  161)    (  161)    (  161)    (  158)    (  159)    (  169)    (  169)    (  160)      .1622      .5336      .1633
          S= .019    S= .172    S= .209    S= .029    S= .100    S= .371    S= .001    S= .001    S= .153    S= .001   (  169)    (  168)    (  161)
                                                                                                                    S= .018    S= .001    S= .019

FACINTER    -.0642     -.1716      .0072     -.0869     -.0350      .0726      .2192     -.2136      .3001      .0108
          (  161)    (  161)    (  161)    (  161)    (  161)    (  159)    (  169)    (  169)    (  169)    (  160)     -.0605      .1936     -.0642
          S= .209    S= .186    S= .464    S= .137    S= .332    S= .176    S= .002    S= .003    S= .001    S= .445   (  169)    (  169)    (  161)
                                                                                                                    S= .219    S= .006    S= .209

NONVERB     -.0893      .2950     -.0525     -.0543     -.0393      .1171     -.3620      .3469     -.0504     -.1748
          (  161)    (  161)    (  161)    (  161)    (  161)    (  159)    (  159)    (  169)    (  159)    (  160)     -.1622     -.3766     -.0893
          S= .130    S= .001    S= .254    S= .247    S= .312    S= .065    S= .001    S= .001    S= .218    S= .012   (  169)    (  168)    (  161)
                                                                                                                    S= .019    S= .001    S= .130

AGE          .1067     -.0943     -.0931      .1241      .0236     -.0369      .1452     -.2666     -.1913      .1571
          (  197)    (  197)    (  197)    (  197)    (  197)    (  159)    (  169)    (  169)    (  159)    (  160)      .2757      .2741      .1067
          S= .068    S= .119    S= .123    S= .041    S= .371    S= .464    S= .030    S= .001    S= .096    S= .021   (  168)    (  169)    (  197)
                                                                                                                    S= .001    S= .001    S= .069

SESV         .0431     -.0779     -.0175      .0491      .0577     -.0022     -.0232     -.0994      .0358      .1091
          (  197)    (  197)    (  197)    (  197)    (  197)    (  169)    (  169)    (  169)    (  169)    (  160)      .0001      .0370      .0431
          S= .274    S= .139    S= .403    S= .247    S= .210    S= .489    S= .383    S= .099    S= .321    S= .085   (  169)    (  169)    (  197)
                                                                                                                    S= .499    S= .316    S= .274

MOENTER      .0311     -.1353      .1064      .0490     -.0537      .0235      .0675     -.1751     -.0071      .1100
          (  197)    (  197)    (  197)    (  197)    (  197)    (  158)    (  169)    (  169)    (  169)    (  160)      .2136      .1731      .0311
          S= .332    S= .029    S= .069    S= .247    S= .179    S= .381    S= .192    S= .012    S= .464    S= .076   (  169)    (  169)    (  197)
                                                                                                                    S= .003    S= .012    S= .332

NOCHILD      .0494     -.0965      .1533      .0743      .0919     -.0097     -.0965     -.0799     -.0507     -.0404
          (  197)    (  197)    (  197)    (  197)    (  197)    (  158)    (  159)    (  168)    (  168)    (  160)     -.0655     -.1303      .0494
          S= .245    S= .093    S= .016    S= .150    S= .100    S= .455    S= .112    S= .155    S= .188    S= [illegible]   (  169)    (  169)    (  197)
                                                                                                                    S= .199    S= .046    S= .245
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              AGE       SESV      MOENTER   TOTEXP    MSESC     MSEXC     STATUS    HTSEXS    HTSESS    HTSEX

AGE          1.0000     .0601     .2191     .1157     .0641    -.0953    -.0659    -.0208    -.0946     .0301
           (     0) (   211) (   211) (   210) (   201) (   201) (   211) (   211) (   211) (   197)
           S= .001  S= .192  S= .001  S= .047  S= .193  S= .089  S= .171  S= .382  S= .085  S= .337

SESV          .0601    1.0000    -.0352    -.2379     .3625     .0623    -.0167    -.0679     .0298     .0637
           (   211) (     0) (   211) (   210) (   201) (   201) (   211) (   211) (   211) (   197)
           S= .192  S= .001  S= .305  S= .001  S= .001  S= .190  S= .405  S= .163  S= .339  S= .187

MOENTER       .2191    -.0352    1.0000     .2660    -.0195    -.0224     .0879     .1132     .0300    -.0699
           (   211) (   211) (     0) (   210) (   201) (   201) (   211) (   211) (   211) (   197)
           S= .001  S= .305  S= .001  S= .001  S= .391  S= .376  S= .102  S= .051  S= .332  S= .164

TOTEXP        .1157    -.2379     .2660    1.0000    -.1250    -.0276     .0397     .1398    -.0423    -.0938
           (   210) (   210) (   210) (     0) (   200) (   200) (   210) (   210) (   210) (   196)
           S= .047  S= .001  S= .001  S= .001  S= .039  S= .349  S= .298  S= .022  S= .271  S= .095

MSESC         .0641     .3625    -.0195    -.1250    1.0000    -.0039    -.0159    -.0555     .0252     .1535
           (   201) (   201) (   201) (   200) (     0) (   201) (   201) (   201) (   201) (   197)
           S= .193  S= .001  S= .391  S= .039  S= .001  S= .478  S= .411  S= .217  S= .361  S= .015

MSEXC        -.0953     .0623    -.0224    -.0276    -.0039    1.0000    -.0297    -.0674     .0725     .0059
           (   201) (   201) (   201) (   200) (   201) (     0) (   201) (   201) (   201) (   197)
           S= .089  S= .190  S= .376  S= .349  S= .478  S= .001  S= .343  S= .171  S= .153  S= .468

STATUS       -.0659    -.0167     .0879     .0397    -.0159    -.0297    1.0000     .4767     .5556    -.0809
           (   211) (   211) (   211) (   210) (   201) (   201) (     0) (   211) (   211) (   197)
           S= .171  S= .405  S= .102  S= .298  S= .411  S= .343  S= .001  S= .001  S= .001  S= .129

HTSEXS       -.0208    -.0679     .1132     .1398    -.0555    -.0674     .4767    1.0000     .1098    -.0395
           (   211) (   211) (   211) (   210) (   201) (   201) (   211) (     0) (   211) (   197)
           S= .382  S= .163  S= .051  S= .022  S= .217  S= .171  S= .001  S= .001  S= .058  S= .291

HTSESS       -.0946     .0298     .0300    -.0423     .0252     .0725     .5556     .1098    1.0000    -.0335
           (   211) (   211) (   211) (   210) (   201) (   201) (   211) (   211) (     0) (   197)
           S= .085  S= .339  S= .332  S= .271  S= .351  S= .153  S= .001  S= .058  S= .001  S= .320

HTSEX         .0301     .0637    -.0699    -.0938     .1535     .0059    -.0809    -.0395    -.0335    1.0000
           (   197) (   197) (   197) (   196) (   197) (   197) (   197) (   197) (   197) (     0)
           S= .337  S= .187  S= .164  S= .095  S= .015  S= .468  S= .129  S= .291  S= .320  S= .001

HTSES         .0341     .0738    -.0593    -.0925     .1539     .0098    -.0896    -.0467    -.0461     .9948
           (   197) (   197) (   197) (   196) (   197) (   197) (   197) (   197) (   197) (   197)
           S= .317  S= .154  S= .203  S= .099  S= .012  S= .447  S= .106  S= .257  S= .260  S= .001

SELF          .1450    -.2142     .0887     .1145    -.0656     .0273    -.2075    -.1045    -.1274     .0213
           (   199) (   199) (   199) (   198) (   191) (   191) (   199) (   199) (   199) (   180)
           S= .020  S= .001  S= .105  S= .054  S= .186  S= .354  S= .002  S= .071  S= .036  S= .386

HISEX         .1917     .0704     .0271     .0951     .0596    -.0029     .0025    -.0534    -.0219    -.0081
           (   168) (   169) (   169) (   167) (   162) (   167) (   169) (   169) (   169) (   161)
           S= .006  S= .192  S= .366  S= .111  S= .226  S= .485  S= .487  S= .246  S= .389  S= .459
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- - - - - - - - - - - - - P E A R S O N   C O R R E L A T I O N   C O E F F I C I E N T S - - - - - - - - - - - - -

              HTSES       SELF       HISEX       HISES        TSEX        TSES     DIFVSEX    DIFVSES    DIFPSEX    DIFPSES    HCSEX      HCSES        ACT       SOCBEH      INVOLV

AGE           .0341       .1458       .1917       .1206       .0799     -.1415       .0953     -.0156      .0620      .0907      .1718      .0127      .2757      .2741      .1057
          (    197)  (    199)  (    168)  (    168)  (    169)  (    168)  (    169)  (    159)  (    169)  (    168) (    168)  (    169)  (    168)  (    168)  (    197)
          S=   .317  S=   .028  S=   .005  S=   .040  S=   .135  S=   .034  S=   .105  S=   .421  S=   .209  S=   .102 S=   .013  S=   .435  S=   .001  S=   .001  S=   .058

SESV          .0730     -.2142       .0704     -.0240       .0151       .0571     -.0411       .0765     -.0141     -.0144      .0666      .1797      .0001      .0330      .0431
          (    197)  (    199)  (    168)  (    168)  (    159)  (    158)  (    159)  (    158)  (    169)  (    158) (    168)  (    168)  (    168)  (    169)  (    197)
          S=   .154  S=   .001  S=   .182  S=   .379  S=   .423  S=   .231  S=   .239  S=   .162  S=   .428  S=   .426 S=   .195  S=   .010  S=   .493  S=   .336  S=   .274

HOFNTFR     -.0590       .0897       .0271       .0138       .1575     -.0347       .1031       .1166       .1084       .1365      .1724      .1271      .2135      .1731      .0311
          (    197)  (    199)  (    159)  (    159)  (    159)  (    159)  (    159)  (    169)  (    159)  (    168) (    158)  (    168)  (    159)  (    159)  (    197)
          S=   .209  S=   .106  S=   .364  S=   .429  S=   .015  S=   .327  S=   .032  S=   .066  S=   .081  S=   .039 S=   .013  S=   .050  S=   .003  S=   .012  S=   .332

TOTEXP      -.0925       .1145       .0951       .1505       .0531       .0569       .0576     -.1095       .1070       .0651      .0746      .0543      .1222      .2186     -.0239
          (    196)  (    199)  (    167)  (    167)  (    167)  (    167)  (    167)  (    167)  (    167)  (    167) (    167)  (    167)  (    167)  (    167)  (    195)
          S=   .099  S=   .054  S=   .111  S=   .026  S=   .197  S=   .233  S=   .230  S=   .079  S=   .084  S=   .202 S=   .169  S=   .243  S=   .058  S=   .002  S=   .370

HSESC         .1659     -.0656       .0594       .0129     -.1175     -.0561       .0014       .1212       .0029       .0830     -.0779     -.0201      .0322     -.0012      .1130
          (    187)  (    191)  (    162)  (    162)  (    162)  (    162)  (    162)  (    162)  (    162)  (    162) (    162)  (    162)  (    162)  (    162)  (    187)
          S=   .012  S=   .184  S=   .226  S=   .435  S=   .054  S=   .202  S=   .493  S=   .062  S=   .485  S=   .144 S=   .162  S=   .400  S=   .342  S=   .494  S=   .062

HSEXC         .0098       .0273     -.0023     -.0990       .0597       .0070     -.0204       .1027       .0612       .0961      .1837      .0187     -.0595     -.0359      .0393
          (    187)  (    191)  (    162)  (    162)  (    162)  (    162)  (    162)  (    162)  (    162)  (    162) (    162)  (    162)  (    162)  (    162)  (    187)
          S=   .447  S=   .354  S=   .485  S=   .133  S=   .229  S=   .465  S=   .399  S=   .097  S=   .219  S=   .166 S=   .010  S=   .407  S=   .226  S=   .325  S=   .332

STATUS      -.0894     -.2075       .0025     -.0804     -.0561     -.0146     -.0709     -.0111     -.0074       .0271     -.1393     -.0244     -.0431      .1057     -.0293
          (    197)  (    199)  (    168)  (    169)  (    169)  (    169)  (    169)  (    168)  (    169)  (    169) (    168)  (    169)  (    168)  (    169)  (    197)
          S=   .106  S=   .002  S=   .487  S=   .150  S=   .243  S=   .425  S=   .181  S=   .443  S=   .462  S=   .366 S=   .037  S=   .377  S=   .290  S=   .086  S=   .348

HTSEXS      -.0467     -.1045     -.0534     -.0364     -.0321       .0636       .0942       .0814       .0181     -.0080     -.0490     -.1103     -.0722      .0915     -.0116
          (    197)  (    199)  (    169)  (    159)  (    159)  (    168)  (    159)  (    169)  (    159)  (    168) (    169)  (    169)  (    169)  (    158)  (    197)
          S=   .257  S=   .071  S=   .246  S=   .320  S=   .343  S=   .206  S=   .112  S=   .147  S=   .438  S=   .459 S=   .265  S=   .077  S=   .175  S=   .119  S=   .436

HTSESS      -.0461     -.1274     -.0213     -.1113     -.0937       .0104     -.2012     -.0911     -.0627     -.0338     -.0757     -.0534      .0037      .0575     -.0335
          (    197)  (    199)  (    169)  (    159)  (    159)  (    159)  (    169)  (    169)  (    168)  (    168) (    168)  (    169)  (    169)  (    169)  (    197)
          S=   .260  S=   .036  S=   .393  S=   .075  S=   .149  S=   .447  S=   .004  S=   .115  S=   .210  S=   .335 S=   .165  S=   .246  S=   .481  S=   .230  S=   .233

HTSEX         .9948       .0213     -.0681       .1445     -.0356     -.0692     -.0035     -.0057       .0544       .0696     -.0080     -.0255      .0409      .0853      .9656
          (    197)  (    188)  (    161)  (    161)  (    161)  (    151)  (    161)  (    161)  (    161)  (    161) (    161)  (    161)  (    161)  (    161)  (    197)
          S=   .001  S=   .386  S=   .453  S=   .034  S=   .473  S=   .195  S=   .482  S=   .472  S=   .246  S=   .191 S=   .460  S=   .374  S=   .304  S=   .141  S=   .001

HTSES        1.0000       .0124     -.0115       .1505     -.0155     -.0650     -.0020     -.0033       .0509       .0760     -.0162     -.0247      .0502      .0941      .9739
          (      0)  (    188)  (    161)  (    161)  (    161)  (    151)  (    161)  (    161)  (    161)  (    161) (    161)  (    161)  (    161)  (    161)  (    197)
          S=   .001  S=   .433  S=   .443  S=   .028  S=   .423  S=   .206  S=   .490  S=   .484  S=   .221  S=   .169 S=   .419  S=   .378  S=   .263  S=   .117  S=   .001

SELF          .0124      1.0000       .0280       .0799       .0013       .0372       .1658       .0646       .1871       .1186      .0445     -.1702      .2337      .0411      .0332
          (    188)  (      0)  (    160)  (    160)  (    160)  (    160)  (    160)  (    160)  (    160)  (    160) (    160)  (    160)  (    160)  (    160)  (    199)
          S=   .433  S=   .001  S=   .362  S=   .161  S=   .493  S=   .320  S=   .019  S=   .209  S=   .009  S=   .068 S=   .288  S=   .016  S=   .001  S=   .303  S=   .237

HISEX       -.0115       .0290      1.0000       .0911       .1725     -.1559       .1933       .0238       .0248       .0423      .2116      .0233      .0936      .0620      .0050
          (    161)  (    160)  (      0)  (    164)  (    159)  (    169)  (    159)  (    169)  (    169)  (    160) (    169)  (    169)  (    159)  (    [illegible])  (    161)
          S=   .443  S=   .362  S=   .001  S=   .120  S=   .013  S=   .022  S=   .007  S=   .380  S=   .351  S=   .293 S=   .003  S=   .384  S=   .103  S=   .212  S=   .470
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               HTSES      SELF     HISEX     HISES      TSEX      TSES   DIFVSEX   DIFVSES   DIFPSEX   DIFPSES     MCSEX     MCSES       AUT    SOCBEH    INVOLV

HISES          .1505     .0789     .0911    1.0000    -.0759     .3295     .1562     .0905     .1062     .1497     .0107     .2642     .2656     .3952     .2375
           (   161)  (   160)  (   168)  (     0)  (   168)  (   168)  (   169)  (   168)  (   169)  (   168)  ( [illegible])  (   169)  (   169)  (   169)  (   161)
           S=  .028  S=  .161  S=  .120  S=  .001  S=  .161  S=  .001  S=  .022  S=  .122  S=  .008  S=  .026  S=  .445  S=  .001  S=  .001  S=  .001  S=  .001

TSEX          -.0155     .0013     .1725    -.0768    1.0000    -.2360     .1660    -.0702     .1029    -.0212     .3191     .0343     .0751    -.0254     .0147
           (   161)  (   160)  (   169)  (   169)  (     0)  (   169)  (   169)  (   168)  (   168)  (   168)  (   168)  (   169)  (   168)  (   169)  (   161)
           S=  .423  S=  .493  S=  .013  S=  .161  S=  .001  S=  .001  S=  .016  S=  .193  S=  .092  S=  .393  S=  .001  S=  .329  S=  .167  S=  .367  S=  .427

TSES          -.0650     .0372    -.1559     .3295    -.2360    1.0000    -.0706     .1426     .0311     .0957    -.0194     .2639     .0193     .1128    -.0741
           (   161)  (   160)  (   168)  (   169)  (   169)  (     0)  (   169)  (   169)  (   169)  (   168)  (   168)  (   169)  (   159)  (   159)  (   161)
           S=  .206  S=  .320  S=  .022  S=  .001  S=  .001  S=  .001  S=  .182  S=  .033  S=  .120  S=  .108  S=  .402  S=  .001  S=  .402  S=  .073  S=  .175

DIFVSEX       -.0020     .1650     .1833     .1562     .1660    -.0706    1.0000     .3557     .2538     .1209     .0783    -.0162     .0565     .1117     .0593
           (   161)  (   160)  (   169)  (   169)  (   169)  (   168)  (     0)  (   169)  (   168)  (   168)  (   168)  (   169)  (   169)  (   169)  (   161)
           S=  .490  S=  .018  S=  .003  S=  .022  S=  .016  S=  .182  S=  .001  S=  .001  S=  .001  S=  .059  S=  .157  S=  .417  S=  .236  S=  .075  S=  .229

DIFVSES       -.0033     .0646     .0239     .0905    -.0702     .1426     .3557    1.0000     .1209     .3990    -.0079     .0279    -.0424     .0047     .0553
           (   161)  (   160)  (   168)  (   169)  (   169)  (   168)  (   169)  (     0)  (   168)  (   168)  (   168)  (   169)  (   169)  (   169)  (   161)
           S=  .484  S=  .209  S=  .381  S=  .122  S=  .193  S=  .033  S=  .001  S=  .001  S=  .059  S=  .001  S=  .459  S=  .360  S=  .292  S=  .456  S=  .243

DIFPSEX        .0609     .1871     .0299     .1062     .1029     .0311     .2538     .1209    1.0000     .5819     .0388     .0021     .1995     .4361     .1511
           (   161)  (   160)  (   169)  (   169)  (   159)  (   159)  (   169)  (   169)  (     0)  (   168)  (   168)  (   169)  (   169)  (   169)  (   161)
           S=  .221  S=  .009  S=  .351  S=  .008  S=  .092  S=  .120  S=  .001  S=  .059  S=  .001  S=  .001  S=  .309  S=  .489  S=  .007  S=  .001  S=  .028

DIFPSES        .0760     .1195     .0423     .1497    -.0212     .0957     .1209     .3990     .5819    1.0000     .0076     .0410     .1029     .3108     .1130
           (   161)  (   160)  (   168)  (   169)  (   159)  (   159)  (   159)  (   169)  (   159)  (     0)  (   159)  (   169)  (   169)  (   169)  (   151)
           S=  .169  S=  .066  S=  .293  S=  .026  S=  .393  S=  .108  S=  .059  S=  .001  S=  .001  S=  .001  S=  .461  S=  .299  S=  .092  S=  .001  S=  .077

MCSEX         -.0162     .0445     .2115     .0107     .3191    -.0194     .0783    -.0079     .0388     .0076    1.0000     .2795     .0191     .0260     .0083
           (   161)  (   160)  (   168)  (   169)  (   159)  (   169)  (   168)  (   169)  (   169)  (   168)  (     0)  (   169)  (   169)  (   169)  (   161)
           S=  .419  S=  .289  S=  .003  S=  .445  S=  .001  S=  .402  S=  .157  S=  .459  S=  .309  S=  .461  S=  .001  S=  .001  S=  .403  S=  .369  S=  .459

MCSES         -.0247    -.1702     .0233     .2642     .0343     .2639    -.0162     .0279     .0021     .0410     .2795    1.0000     .1425     .0971     .0115
           (   161)  (   160)  (   169)  (   159)  (   169)  (   169)  (   169)  (   168)  (   169)  (   168)  (   168)  (     0)  (   168)  (   169)  (   151)
           S=  .378  S=  .016  S=  .382  S=  .001  S=  .329  S=  .001  S=  .417  S=  .360  S=  .489  S=  .299  S=  .001  S=  .001  S=  .033  S=  .105  S=  .443

AUT            .0502     .2337     .0996     .2656     .0751     .0193     .0565    -.0424     .1995     .1029     .0191     .1425    1.0000     .3702     .1726
           (   161)  (   160)  (   168)  (   169)  (   169)  (   159)  (   169)  (   169)  (   168)  (   168)  (   168)  (   169)  (     0)  (   159)  (   161)
           S=  .263  S=  .001  S=  .103  S=  .001  S=  .167  S=  .402  S=  .236  S=  .292  S=  .007  S=  .092  S=  .403  S=  .033  S=  .001  S=  .001  S=  .014

SOCBEH         .0941     .0411     .0620     .3952    -.0254     .1128     .1117     .0047     .4361     .3108     .0260     .0971     .3702    1.0000     .2079
           (   161)  (   160)  (   168)  (   168)  (   168)  (   169)  (   169)  (   168)  (   169)  (   168)  (   168)  (   169)  (   169)  (     0)  (   161)
           S=  .117  S=  .303  S=  .212  S=  .001  S=  .367  S=  .073  S=  .075  S=  .456  S=  .001  S=  .001  S=  .369  S=  .105  S=  .001  S=  .001  S=  .004

INVOLV         .4739     .0392     .0063     .2375     .0147    -.0741     .0593     .0553     .1511     .1130     .0083     .0115     .1726     .2079    1.0000
           (   197)  (   188)  (   161)  (   161)  (   161)  (   151)  (   161)  (   161)  (   161)  (   161)  (   161)  (   161)  (   161)  (   151)  (     0)
           S=  .001  S=  .297  S=  .470  S=  .001  S=  .427  S=  .175  S=  .228  S=  .243  S=  .028  S=  .077  S=  .459  S=  .443  S=  .014  S=  .004  S=  .001
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              AGE        SESV       MOENTER    TOTEXP     MSESC      MSEXC      STATUS     MTSEXS     MTSESS     MTSEX

MTSES         .1206     -.0248      .0138      .1505      .0129     -.0988     -.0904     -.0364     -.1113      .1445
           (  168)   (  168)   (  169)   (  167)   (  162)   (  162)   (  168)   (  168)   (  168)   (  161)
           S= .060   S= .379   S= .423   S= .026   S= .435   S= .133   S= .150   S= .320   S= .075   S= .034

TSEX          .0749      .3151      .1675      .0691     -.1176      .0597     -.0561     -.0321     -.0887     -.0056
           (  169)   (  168)   (  169)   (  167)   (  162)   (  162)   (  168)   (  169)   (  168)   (  161)
           S= .155   S= .423   S= .015   S= .187   S= .058   S= .229   S= .243   S= .340   S= .149   S= .473

TSES         -.1415      .0571     -.0347      .0568     -.0551      .0070     -.0146      .0636      .0184     -.0682
           (  169)   (  169)   (  169)   (  167)   (  162)   (  152)   (  159)   (  168)   (  158)   (  161)
           S= .034   S= .231   S= .327   S= .213   S= .232   S= .465   S= .425   S= .206   S= .447   S= .195

DIFVSEX       .0969     -.0411      .1031      .0576      .0016     -.0204     -.0789      .0942     -.2012     -.0035
           (  169)   (  169)   (  169)   (  157)   (  162)   (  152)   (  169)   (  169)   (  169)   (  161)
           S= .105   S= .299   S= .092   S= .230   S= .433   S= .398   S= .181   S= .112   S= .004   S= .482

DIFVSES      -.0196      .0765      .1166     -.1095      .1212      .1027     -.0111      .0914     -.0931     -.0057
           (  169)   (  168)   (  169)   (  167)   (  162)   (  162)   (  168)   (  169)   (  168)   (  161)
           S= .421   S= .162   S= .065   S= .079   S= .062   S= .097   S= .443   S= .147   S= .115   S= .472

DIFPSEX       .0628     -.0141      .1096      .1070      .0023      .0612     -.0276      .0181     -.0627      .0544
           (  169)   (  169)   (  168)   (  167)   (  162)   (  152)   (  169)   (  169)   (  169)   (  161)
           S= .209   S= .429   S= .081   S= .084   S= .495   S= .219   S= .442   S= .409   S= .210   S= .246

DIFPSES       .0997     -.0144      .1365      .0651      .0839      .0841      .0271     -.0080     -.0330      .0694
           (  168)   (  168)   (  168)   (  167)   (  162)   (  162)   (  169)   (  168)   (  169)   (  161)
           S= .102   S= .426   S= .039   S= .202   S= .144   S= .144   S= .364   S= .459   S= .335   S= .191

MCSEX         .1719      .0666      .1724      .0746     -.0779      .1837     -.1393     -.0490     -.0757     -.0080
           (  168)   (  168)   (  168)   (  167)   (  162)   (  162)   (  168)   (  169)   (  159)   (  161)
           S= .013   S= .195   S= .013   S= .169   S= .152   S= .010   S= .037   S= .264   S= .165   S= .460

MCSES         .0127      .1787      .1271      .0543     -.0201      .0197     -.0244     -.1101     -.0534     -.0256
           (  169)   (  159)   (  168)   (  157)   (  162)   (  152)   (  159)   (  169)   (  158)   (  161)
           S= .435   S= .012   S= .051   S= .243   S= .400   S= .407   S= .377   S= .077   S= .246   S= .374

AUT           .2757      .0001      .2135      .1222      .0322     -.0596     -.0431     -.0722      .0037      .0408
           (  169)   (  169)   (  169)   (  157)   (  152)   (  162)   (  169)   (  168)   (  168)   (  161)
           S= .001   S= .499   S= .003   S= .058   S= .342   S= .226   S= .290   S= .176   S= .481   S= .304

SOCDEM        .2741      .0336      .1731      .2196     -.0012     -.0359      .1057      .0915      .0575      .0853
           (  169)   (  168)   (  169)   (  167)   (  162)   (  162)   (  159)   (  169)   (  168)   (  161)
           S= .001   S= .336   S= .012   S= .002   S= .494   S= .325   S= .095   S= .119   S= .230   S= .141

INVOLV        .1067      .0431      .0311     -.0219      .1130      .0383     -.0290     -.0116     -.0390      .0656
           (  197)   (  197)   (  197)   (  195)   (  197)   (  197)   (  197)   (  197)   (  197)   (  197)
           S= .068   S= .274   S= .332   S= .378   S= .352   S= .302   S= .344   S= .436   S= .293   S= .181
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